

BEYOND REHAB

HOW INTERDISCIPLINARY TEAMS MANAGE GROIN PAIN IN ATHLETES

– Written by Benjamin Salcinovic, Qatar, and Nick Kane, Australia

INTRODUCTION

Groin pain remains one of the most complex injury challenges in elite sport¹. It places a significant burden on athlete performance², particularly in sports requiring rapid changes of direction and high-speed sprinting³. Far from an occasional issue, this high-burden condition impacts up to 50% of all athletes each season². Yet, despite modern diagnostic frameworks like the Doha agreement classification¹, advanced diagnostic imaging, and progressive rehabilitation protocols, recovery outcomes remain frustratingly inconsistent^{4,5}.

While clinical inconsistency is frequently blamed on complex human biology, practical experience suggests a different primary culprit⁶: beyond basic anatomy, managing groin pain is fundamentally an organizational team performance problem⁷. This aligns with a growing body of research linking how well a support team functions to its overall success in high-pressure environments^{8,9}.

Success does not depend on a single exercise or treatment modality. Instead, it relies on how effectively an expert team shares information, communicates risk [10,11], and adapts under pressure⁷. By combining clinical and organizational perspectives, this article demonstrates that

Interdisciplinary Team (IDT) effectiveness is a critical, yet often ignored, factor in high-performance sport^{7,12}. From a team effectiveness perspective, our clinical experiences demonstrate that successful injury management depends on coordinated, interdisciplinary collaboration. We outline practical steps for rehabilitation and return-to-play (RTP) decision-making^{13,14}, driven by shared responsibility and aligned communication across the team.

Interdisciplinary Teams: Beyond Multidisciplinary Care

A clear distinction between forms of collaborative practice is essential to understanding how high-functioning teams optimize athlete outcomes.

An interdisciplinary team (IDT) differs from a basic multidisciplinary group in one major way: it replaces isolated contributions with true collaboration^{9,15}. In an effective IDT, specialists synthesize distinct perspectives around a single goal: maximizing long-term athlete health⁷. This approach matches proven models of team coordination and performance⁸, backed by data from corporate and high-performance sectors showing that leadership, clear communication, mutual support, and structured feedback drive systemic team success^{7,9}.

An optimized high-performance support team consists of clearly defined core roles:

- Sports Physician: Offers diagnostic expertise and identifies specific medical and structural issues.
- Physiotherapist: Designs, guides, and progresses the clinical rehabilitation plan.
- Strength and Conditioning (S&C) Coach: Manages systemic training loads, gym-based exposure, and physical capacity.
- Performance Staff: Evaluates the technical, tactical, and metabolic demands of the sport.
- Coach and Athlete: Act as central stakeholders and active partners in the decision-making process (Figure 1).

CORE DRIVERS OF INTERDISCIPLINARY TEAMS

To understand the mechanisms underpinning integrated athlete care, attention must focus to the foundational drivers of team effectiveness. Factors such as adaptive leadership, which guide team alignment when priorities shift; supportive team behaviour, which enables role clarity and mutual team collaboration; structured feedback, which helps the team audit decisions and progression criteria; and communication, which ensures shared

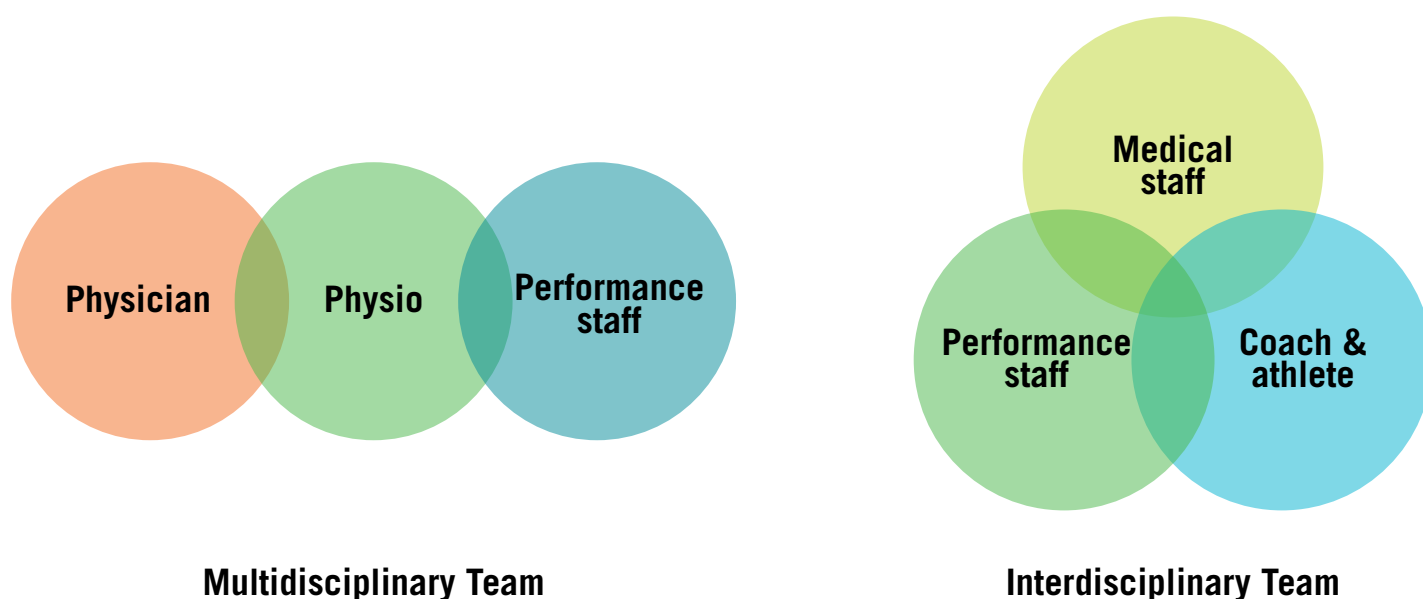


Figure 1: Visual representation of a Multidisciplinary team (MDT) vs an Interdisciplinary Team (IDT). The multidisciplinary team model shows separate roles with minimal integration. The interdisciplinary team model demonstrates complex, interconnected roles and dynamic integration.

understanding across disciplines, bridge multi-specialty divides, converting isolated clinical contributions into integrated interdisciplinary collaboration (Figure 2).

Leadership and shared decision-making

Adaptive leadership is a critical determinant of team function. Leaders influence role clarity, trust, collaboration and shared purpose. In groin pain management, leadership challenges often emerge when stakeholders hold differing perspectives on diagnosis, rehabilitation management strategies, acceptable levels of risk, and the criteria used to determine readiness for progression and return to performance. Coaches may prioritize competition availability, rehabilitation staff may emphasize symptom stability and risk mitigation, while strength and conditioning staff may focus on maintaining physical qualities. Without a clear decision-making structure, these competing priorities can result in inconsistent recommendations and uncertainty for the athlete. Effective leaders facilitate alignment, make the decision-making process explicit and ensure that the expertise of the team is integrated rather than fragmented⁷.

Communication as the foundation of clinical integration

Communication is central to effective interdisciplinary care. In athlete rehabilitation management, information

about symptom behaviour, performance demands and athlete confidence must be exchanged continuously. A phrase such as 'progressing well' may mean that symptoms are stable under controlled rehabilitation loads, but it may be interpreted by coaching staff as readiness for unrestricted training. Such ambiguity can accelerate progression beyond the athlete's current capacity. Structured communication, shared terminology and concise availability

updates are therefore essential to reduce misunderstanding and support coherent decisions.

Supportive team behaviour and role clarity

Supportive team behaviour refers to the ability of team members to understand one another's roles, anticipate needs and provide backup support when required¹⁶. This is highly relevant in injury rehabilitation because loading decisions occur across



Figure 2: Core Drivers of Team Effectiveness.

multiple settings. A physiotherapist may progress strengthening appropriately, while a strength and conditioning coach may independently increase sprinting or change-of-direction volume, and a coach may increase sport-specific exposure. If these decisions are not connected, the athlete may receive an apparently well-designed program that fails at the system level. High-performing teams reduce this risk through role clarity, shared planning and coordinated exposure progression.

Feedback: Auditing Decisions, Not Just Outcomes

Most sports teams’ judge injury management by a single outcome: Did the athlete get injured again? High-performing teams look deeper by auditing the actual quality of their decisions¹³. Data is only useful when the team shares a common understanding of their meaning. A pain score of 2/10 or improved strength may indicate readiness for progressed loading, but not necessarily readiness for match play. Defining shared thresholds for progression, training availability and return to competition reduces ambiguity and helps ensure that feedback informs decisions rather than creating competing interpretations. Without structured feedback loops⁸, flawed decision-making habits become normalized over time¹⁷, even if the team gets lucky and the athlete avoids reinjury¹³.

Adaptability in the face of complexity

Rehabilitation issues rarely exist in a vacuum. Heavy game schedules, travel fatigue, changing tactics, and squad rotations all push against an athlete’s physical limits¹⁸. Effective teams adapt their core principles dynamically rather than adhering to a rigid protocol¹⁷. This does not mean abandoning structure; rather, it means using structure as a decision-making framework that can respond to the athlete’s current presentation and the realities of the performance environment.

True adaptability requires keeping the athlete at the center of decision-making¹⁴, balancing the short-term risk of playing through symptoms against the long-term risk of major injury recurrence^{10,11}, and distinguishing protective flexibility from simply surrendering to the match schedule⁷ (Table 1).

TABLE 1			
Effectiveness Factor	Challenge / Conflict	Team Action	Primary Objective
Leadership	Conflicting priorities	Nominate clinical lead; set decision rules	Facilitate Alignment
Communication	Interpretive variance	Standardize language; concise status updates	Shared mental model
Role Clarity	Siloed rehabilitation	Map discipline roles to a single pathway	Coordinated rehab approach
Performance Feedback	Unclear progression metrics	Set objective thresholds for rehab stages	Safe, criteria-based progress
Adaptability	Unpredictable load demands	Utilize load-responsive decision framework	Dynamic athlete health monitoring

Table 1: Risk Assessment tools for RSI.

GROIN PAIN AS A REFLECTION OF TEAM EFFECTIVENESS

Groin pain routinely challenges linear clinical thinking. Symptoms fluctuate dynamically with training loads^{18,19}, mechanisms of injury are complex³, and diagnostic imaging findings frequently correlate poorly with actual pain and functional capacity^{4,5}. Crucially, because symptoms do not always limit immediate performance¹⁰, external competitive pressures compound clinical decision-making¹¹. In this high-stakes environment, the greatest risk is rarely a poorly chosen exercise; rather, it is misaligned decision-making and communication breakdowns within the support staff¹². Poor outcomes in groin injury management are more often a reflection of system-level shortcomings than individual clinician performance^{7,17}. To mitigate these challenges: clear expectations, collaborative planning, and open communication must involve the athlete, coach, performance staff, and medical team from the very outset^{12,20}.

Driving the Rehab Continuum: An Interdisciplinary Approach

An effective rehabilitation strategy is anchored by three core questions:

1. What are the physical, technical, and psychological demands of the sport at this athlete’s competitive level, and how can we safely begin preparing for those demands now?

2. What is the working diagnosis, and what is the best management plan to address the athlete’s symptoms, impairments, loading tolerance, and sport-specific requirements?
3. How do we synthesize data from objective clinical exams, strength diagnostics, gym metrics, and GPS tracking to build an optimal RTP pathway?
4. Bringing the full interdisciplinary team together to answer these questions ensure unified communication¹² and guarantees that every staff member has a distinct, aligned role⁸.

Staff integration through the rehab continuum

Effective interdisciplinary coordination is essential from the earliest stages of rehabilitation to optimize outcomes in groin injuries throughout the rehabilitation process.

A lack of integration between physiotherapy and strength and conditioning (S&C) early in the rehabilitation journey can result in poorly aligned rehabilitation and gym-based loading strategies, potentially compromising groin injury outcomes. Within the context of groin rehabilitation, restoration of athlete’s key deficits should be in line with the athlete’s current load tolerance. In the absence of coordinated planning rehab sessions may inadvertently exceed this

TABLE 2

Rehabilitation Phase	Key Team Effectiveness Factors	Example IDT Behaviours in Groin Pain Management
Foundation	• Shared Mental Models • Role Clarity • Psychological Safety	Physicians, physiotherapists and radiologists develop a common understanding of the diagnosis and contributing factors. Team members openly discuss diagnostic uncertainty and differential diagnoses without fear of criticism.
Reload	• Communication Quality • Supportive Team Behaviour	Strength coach and physiotherapist agree on loading progressions and communicate daily training tolerances. Athlete goals are aligned across the IDT to avoid contradictory advice.
Accumulation	• Information Sharing • Collaborative Decision-Making	Training load data, pain scores, wellness metrics and session outcomes are shared across disciplines. Progression decisions are made collaboratively rather than independently by individual practitioners.
Transition	• Adaptive Coordination • Conflict Management • Performance Monitoring	Rehabilitation staff and coaching staff jointly determine readiness for exposure to high-risk activities. Differences in opinion regarding progression are addressed constructively through evidence-informed discussion.
Simulation	• Leadership & Decision Support • Cross-Disciplinary Collaboration	Medical, performance and coaching staff maintain a shared understanding of athlete readiness, cumulative load and residual risk during match-simulation activities.
Resilience	• Feedback Loops • Long-Term Shared Ownership	Post-return reviews are conducted to identify lessons learned. The athlete, coaching staff, physiotherapist, physician and performance staff share responsibility for maintaining robustness and reducing recurrence risk.

Table 2: Key team effectiveness factors and IDT behaviours across rehabilitation phases.

envelope of control, for example, through early introduction of high-load adductor exercises such as adductor Copenhagen's during a sensitive phase of adductor loading. This underscores the importance of interdisciplinary communication and shared clinical reasoning to ensure that global loading strategies are congruent with local tissue capacity throughout the rehabilitation continuum.

Without strategic integration, well-intentioned, siloed programs actively work against each other⁹. Conversely, a unified approach requires the physiotherapist, rehabilitation specialist, and S&C coach to collaboratively map out the functional needs of the athlete. This ensures the athlete safely maintains systemic qualities via compound movements while actively rehabilitating the local injury, keeping all the staff involved central to the recovery timeline.

This integration must extend directly onto the pitch during field-based progressions. Treating the running phase as an isolated "handover" to an on-field coach is a critical error. To prevent loading setbacks¹⁹, field sessions should be planned collectively and executed dynamically¹⁵,

with both the medical staff and fitness staff being physically present to monitor real-time tissue tolerance and progression.

Transition to Play: The Danger Zone

The transition back to full performance represents a complex and often challenging phase of rehabilitation, characterized by increasing stakeholder involvement and rising performance demands¹⁴. Training intensity, frequency, and tactical complexity all escalate, while expectations from coaching staff and the athlete simultaneously increase²⁰.

At this stage, the athlete's focus naturally shifts toward performance and team reintegration. Coaches seek earlier engagement in full training drills²⁰, while the athlete is motivated to demonstrate readiness and secure selection. Despite apparent clinical progress, this phase carries elevated injury risk, particularly for secondary soft tissue injuries¹⁸, rather than a recurrence of the groin pain itself.

De-risking the Transition Phase

- Define Match Demands: Establish an explicit progression framework

outlining how specific high-performance metrics will be achieved¹⁹.

- Structured "In-and-Out" Participation: Close collaboration with coaching staff is essential to facilitate appropriate integration within team sessions²⁰, providing a practical bridge toward unrestricted training while maintaining load control¹⁹.
- Expectation Alignment: Maintain continuous, transparent dialogue across all stakeholders to ensure everyone is operating from the same timeline¹².

Return to performance decisions must be contextualized within team requirements and made collaboratively with the athlete and coaching staff^{12,20}. To maximize athlete outcomes, IDT teams must seamlessly blend the medical and performance environments rather than letting them run in isolation¹² (Table 2).

KEY TAKEAWAYS

- Systemic Challenge: Groin pain is an intricate systems and teamwork challenge, not merely a physical therapy issue.
- Elite Behaviors: Adaptive leadership,

mutual support, structured feedback, and adaptability separate high-performing teams from dysfunctional ones.

- Interdisciplinary Team Management: Optimizing how support staff collaborate is just as critical as analyzing imaging, tracking clinical outcomes, or prescribing rehabilitation exercises.

CONCLUSION

There is no silver-bullet rehab protocol for athlete groin pain. However, there are significantly more effective ways for high-performance teams to operate⁷. When interdisciplinary teams integrate their expertise⁹, share risk intelligently¹⁰, and audit their processes rather than just raw outcomes¹³, groin pain becomes far more manageable. Ultimately, managing groin injuries is not just a test of individual clinical skill, it is a true test of how well a team can work beyond rehab. Viewing groin pain through a team effectiveness lens offers an important opportunity to enhance both clinical practice and athlete outcomes in high-performance sport.

References

1. Weir A, Brukner P, Delahunt E, et al. Doha agreement meeting on terminology and definitions in groin pain in athletes. *Br J Sports Med.* 2015;49(12):768–774. <https://doi.org/10.1136/bjsports-2015-094869>
2. Mosler AB, Weir A, Serner A, et al. Epidemiology of time loss groin injuries in a men's professional football league: a 2-year prospective study. *Am J Sports Med.* 2018;46(12):2927–2934.
3. Serner A, Mosler AB, Tol JL, et al. Mechanisms of acute adductor longus injuries in male football players: a systematic visual video analysis. *Br J Sports Med.* 2019;53(3):158–164.
4. Whittaker JL, Drew BT, Ellis R, et al. Imaging does not reliably determine the origin of groin pain in athletes. *Br J Sports Med.* 2015;49(12):773–781.
5. Grayson ML, McConnell J, et al. The failure of imaging to correlate with pain and function in athletic groin pain. *Sports Med.* 2019;49(2):183–196.
6. Eraut M. Non-formal learning and tacit knowledge in professional work. *Br J Educ Psychol.* 2000;70(1):113–136.
7. Salcinovic B, Drew M, Dijkstra HP, et al. Factors influencing team performance: what can support teams in high-performance sport learn from other industries? A systematic scoping review. *Sports Med Open.* 2022; 8:25.
8. Salas E, Sims DE, Burke CS. Is there a “big five” in teamwork? *Small Group Research.* 2005;36(5):555–599.
9. Mathieu J, Maynard MT, Rapp T, Gilson L. Team effectiveness: Recent advances and future directions. *J Manage.* 2008;34(3):410–476.
10. Dijkstra HP, Pollock N, Chakraverty R, et al. Managing the health risks of competing while injured. *Br J Sports Med.* 2014;48(24):1791–1792.
11. Orchard JW, Best TM. The management of muscle strain injuries: An early return versus the risk of recurrence. *Clin J Sport Med.* 2002;12(1):3–5.
12. Ekstrand J, Lundqvist D, et al. Communication quality between medical staff and coaches is associated with injury burden. *Br J Sports Med.* 2019;53(5):304–308.
13. Bahr R, Clarsen B, Ekstrand J. Why we should focus on the quality of return to sport decisions, not the quantity of time-loss injuries. *Br J Sports Med.* 2020;54(23):1415–1416.
14. Arderm CL, Glasgow P, Schneiders A, et al. Consensus statement on return to sport from the First World Congress in Sports Physical Therapy. *Br J Sports Med.* 2016;50(14):853–864.
15. Gittel JH. Coordinating mechanisms in care provider groups: Relational coordination as a predictor of quality outcomes. *Manage Sci.* 2002;48(11):1408–1426.
16. Edmondson AC. Psychological safety and learning behavior in work teams. *Adm Sci Q.* 1999;44(2):350–383.
17. Woolf SH, Grol R, Hutchinson A, et al. Clinical guidelines: Potential benefits, limitations, and harms of guidelines. *BMJ.* 1999;318(7182):527–530.
18. Windt J, Gabbett TJ. How do training and competition workloads relate to injury? The workload–injury aetiology model. *Br J Sports Med.* 2017;51(5):428–435.
19. Blanch P, Gabbett TJ. Has the athlete trained enough to return to play safely? The acute: chronic workload ratio revisited. *Br J Sports Med.* 2016;50(8):471–475.
20. McCall A, Dupont G, Ekstrand J. Injury prevention strategies, coach compliance and player availability in professional football. *Br J Sports Med.* 2016;50(12):786–792.

Benjamin Salcinovic

Senior Physiotherapist

Aspetar Orthopaedic and Sports Medicine
Hospital

Doha, Qatar

Nick Kane

Sports and Exercise Physiotherapist

The Sports MAP Network

Previous AFL Head Physiotherapist
(Essendon FC)

Melbourne, Australia

Contact: benjamin.salcinovic@aspetar.com