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Clinical Commentary/Current Concept Review

'Avoidance Preening', Displacement Behavior and Co-Dependency in Professional Team Sport: When Wants Become More Important Than Needs

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An athlete's body plays an important role in their performance and well-being. However, game-relevant skills are better determinants of success, compared with physical fitness, in technically-driven team sports. In the professional era, over utilization of resources, in pursuit of physical optimization, can detract from time spent on priorities. Athletes' non-strategic, time-demanding focus on physical preparation/treatments resembles avian 'avoidance preening', whereby stressful situations trigger birds to excessively preen in place of more productive activities. The purpose of this commentary is to explore the behaviors of resource-rich professional teams and the roles of staff dedicated to optimizing physical performance, including circumstances that foster avoidance behavior and create the potential for practitioners to encourage co-dependent relationships with athletes. To cultivate healthy/productive environments, the following is recommended: I) recognition of non-productive avoidance behaviors; II) eschewing unjustified, fear promoting, pathoanatomical language; III) fostering collaborative approaches; IV) encouraging utilization of psychology services; V) recognizing that optimal physical function and feeling good is rarely the primary goal in professional team sports.

Level of Evidence

5

INTRODUCTION

Preening is a body-maintenance behavior seen in birds, which involves use of the bill to support health and structure of the feathers (e.g. position feathers, interlock feather barbules, clean and keep parasites in check).[1] This conditioning of the outer layer, often referred to as a bird's integument, supports the critical function of flight in avian species.[2] Due to its functional role, this behavior may be considered more critical than the bodily grooming observed in land-based mammals.[2] Similarly, athletes' bodies play a significant role in their performance and well-being, which means that body-maintenance likely holds more importance than in non-athletes. In athletes, physical function and overall sports performance is not only linked to feelings of self-worth and mental wellbeing, but also supports the livelihood of individual athletes, sports teams, and leagues. Like a bird's integument, a high-functioning body is critical to athletes thriving.

Despite preening being a critical behavior to support flight in avian species, indulgence in excessive preening does not necessarily lead to improved fight. Preening is also energetically demanding[3] and can have indirect costs by detracting from other productive behaviors.[4] In some cases, preening has been described to be a displacement behavior in response to stressful situations.[5] For example, *European Starlings* will break off their battles to preen[6] and some *Tern* species will preen when they have been alarmed by a potential predator.[5] This behavior is not serving to 'condition the integument' but is used as an avoidance technique during times of stress. Humans are also known to display avoid-

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ance behavior to threatening situations,[7] possibly as an attempt to reduce the unpleasant affective experience.

In the professional era of sport, large economies and an intensified focus on performance outcomes can contribute to stressful environments.[8] These growing economies have also led to an increase in available resources to support athlete preparation (e.g. sports science, sports medicine, and sport technology). In some cases, team's management hold the belief that a greater number of staff will inevitably contribute to improvements in athleticism, healthier athletes, and better sport performances.

Abundant resources focused on physical preparation, combined with stressful environments, has led to some examples of support staff spending excessive amounts of time with athletes on 'body work' (e.g., massage, joint manipulation, deep tissue focus, electrical muscle stimulation, cupping, dry needling, resistance training etc.). Currently, there is little evidence that this type of support will help players perform better during competition. In contrast, the excessive amount of time spent on 'body work' may reduce time spent on more important performance related coaching interventions that improve decision making, communication, cohesion, tactics, strategy, and game relevant skills.

It is obviously non-desirable for support staff to prevent players from focusing on high-priority, performance enhancing activities. In the animal kingdom, avoidance preening/grooming has been described in animals that are experiencing an increase in stress due to a perceived threat.[2] In humans it is documented that 'people tend to approach positively evaluated stimuli and to avoid negatively evaluated ones.'[9] In this commentary, it is proposed that the behavioral response to stress in team sports can encourage a non-desirable avoidance behavior (e.g. excessive body work), which is analogous to avoidance preening in birds.

THE CEILING EFFECT OF 'CONDITIONING THE INTEGUMENT'

Physical preparation is important for team sports, from the perspective of both conditioning required to compete at the highest level[10] and resilience to injury, which in turn optimizes availability.[11] However, game-relevant skills, decision-making and strategy have been shown to be a better determinant of performance compared with physical fitness, in technically driven team sports.[12] In this respect, the most valuable players on a team rarely possess the greatest strength or aerobic/anaerobic capacity. Although it is the practitioner's responsibility to strive for physical optimization, there is an equal need to acknowledge the training principle of diminishing returns,[13] and understand where these training modalities sit on the hierarchy of team sport performance needs. Experienced coaches will quickly recognize that when compared to fitness, technical and tactical aspects of the sport are clearly a priority. This concept may be frustrating for motivated support staff who believe that the team's performance will benefit if they are allowed to provide athletes with frequent, lengthy manual therapy sessions. It may seem counterintuitive to some professionals that less engagement with athletes can be beneficial for performance. However, an athlete's time is a limited resource and reducing time spent on body work can increase opportunities to focus on skills, tactics, and decision-making, which could have a greater impact on both individual and overall team success.

THE RESOURCE RICH MODERN PROFESSIONAL ATHLETE

In elite sporting environments, resources have historically been limited. However, the evolving professionalization of sport has greatly reduced many previous constraints. Modern-day professional athletes can now devote large portions of their day to performance enhancing activities, and in the top tier of professional sport, financial resources are impressive. Indeed, it is now common to see sporting franchises valued at over US $1 billion[14] and individual team sport athletes commonly earn salaries in excess of US $10 million each season.[15] As a result, there are improved support staff to athlete ratios. In some cases, high profile athletes have their own 'team' of practitioners, solely devoted to taking care of one person. This 24/7 extreme support has created a new phenomenon, whereby athletes can spend large portions of their time 'taking care of their body'. When athletes are paid millions of dollars, there can be an associated pressure on both the athlete and the support staff to ensure that optimal health, fitness, and motivation are achieved. In professional sport, focusing on activities that 'feel good' and fit within a support practitioner's comfort zone can easily become a priority, limiting the time spent on higher impact technical and tactical development (e.g., practice with teammates, studying film, meeting with coaches, discussing strategy with teammates in ways that contribute to team social dynamics critical to team success). This behavior appears analogous to avoidance preening in birds, which can occur as a response to overwhelming stress and may take away from more productive activities.

ALLOPREENING - THE ROLE OF MEDICAL AND PERFORMANCE PROFESSIONALS

Although avian preening is primarily an individual behavior, some species engage in allopreening, a term that reflects interaction between two or more birds.[16] This behavior is thought to do more than assist in effective grooming and may contribute to socialization and communication.[17] Preening and allopreening are not mutually exclusive, and the conditions that promote these behaviors can vary.

Medical and performance staff often collaborate with athletes in the care and preparation of their bodies. Although good sensations and a positive mood are desirable, the intense focus on activities that 'feel good', but do not necessarily contribute to a performance outcome, can occur knowingly or unknowingly. In the authors' experience, it is common for practitioners perceiving job pressure to initiate athlete interactions by imparting fear via pathoanatomical diagnoses and classification of 'faulty' movement patterns. For example, many practitioners continue to assess movement dysfunction when assessing the sacroiliac joint, suggesting to athletes their 'pelvis is off' or 'stuck', yet there

is evidence undermining these assessments and treatment paradigms.[18] Once the athlete is sufficiently concerned, an intervention is proposed. It is clear that communication style and persuasion techniques during an athlete-clinician encounter can positively or negatively influence an athlete's 'buy-in' and subsequent expectations.[19,20] The concept of 'Therapeutic Presence' outlines the importance of a patient feeling safe and secure in the treatment setting and believing that treatment will produce favourable outcomes.[21] Indeed, there is evidence that beliefs of medical practitioners are 'socially transmitted' to patients, and have a quantifiable impact on treatment outcomes.[22] However, clinicians should be aware that inducing an external locus of control, creating co-dependencies, and distracting the athlete from other priorities can all be considered non-desirable outcomes. In some cases, this behavior may even have a negative impact on individual and team performance. For example, unhealthy dependencies may lead an athlete to believe that only *one person* will be able to 'know my body' and therefore be in a position to 'fix me'.

Cultivating apprehension and using catastrophic language, particularly in relatively non-threatening situations, can create further fear avoidance behaviors. This may encourage the athlete to invest 'extra' time working on their body, at the expense of higher priority activities that could directly affect individual and team success. Medical and performance staff may also fall into the trap of viewing their 'value' based on how much time the athlete utilizes their services or 'treatment'. Treating an athlete may boost the self-esteem of the medical and/or performance professional, especially in cases where the athlete is of notable celebrity. These situations can result in an unhealthy co-dependency between the athlete and support staff.

WARNING SIGNS OF AVOIDANCE BEHAVIOR AND CO-DEPENDENCE

In the competitive world of professional team sports, it is often desirable for support staff to display their talents. Because a tangible link between player support and overall team performance is difficult to quantify, coaches and front office executives tend to desire staff who keep busy and are well-liked by athletes. However, an environment that contributes to health, well-being, and performance improvements, is easier to achieve if support staff are discouraged from promoting avoidance behavior and co-dependent relationships with athletes. Warning signs of avoidance behavior and co-dependence may include: isolation of the athlete from other staff members; suggesting that the athlete cannot perform unless touched by a medical/ performance staff member; alignment with "guru" philosophies that are not evidence based and can therefore only be delivered by one practitioner; aversion to collaboration with other medical/performance colleagues on staff; significantly decreasing amount of time spent on sport based activities (e.g. practice, film) in favour of 'working on the body', without the presence of injury. While authentic relationships, that reflect trust and foster a therapeutic presence between support staff and players, are to be encouraged, this should not be at the detriment of a highly functional team environment. The challenge for support staff is to connect with players in ways that cultivate commitment to high-priority activities, that ultimately lead to improved player resilience and team performance.

PSYCHOLOGICAL SUPPORT SERVICES AND SCOPE OF PRACTICE

When addressing psychological concepts associated with anxiety, anger management, and relationships with teammates and coaches, it is important that medical and performance professionals work within their scope of practice and do not attempt to engage in advanced psychological services. Indeed, holistic approaches to athlete health and performance should incorporate services from appropriately qualified psychology professionals. While maintaining appropriate scope of practice is necessary, support personnel play a large role in developing the environment around athletes, including psychological concepts. In professional sports teams, medical and performance professionals usually spend more time with athletes than any other group, and thus, their opportunity to influence is great. Therefore, the authors believe it is the responsibility of support staff to be aware of their level of influence, recognize priorities and work to create supportive environments, in conjunction with utilization of appropriate psychological services.

PRACTICAL APPLICATIONS

To cultivate healthy working environments around the modern professional team sport athlete, it is proposed that awareness around the following concepts are critical: I) early recognition of support staff and athlete avoidance behaviors; II) eschew pathoanatomical language and diagnosis that often induces unjustified fear; III) foster collaborative care approaches to avoid the opportunity for athletes to develop the belief that only one person can 'fix me' or 'know my body', IV) message to support staff that improving physical function is not the primary goal, but is a means to support sports practice, competition and performance; V) encourage the athlete to utilize psychology services, recognizing this may be in the absence of clinical diagnosis, but in the seeking of optimal health and performance.

Practitioners employed in positions to support professional athletes often enter a sociopolitical environment that is stressful in many unique ways. As the professional sports industry matures, support staff are transitioning from small groups of generalists to larger teams of experts. The challenge for experts working in this environment is to resist personal needs, be aware of priorities and focus on activities that contribute to a healthy and competitive team culture, where performance of the player and the team remain the focus.

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COI STATEMENT

The authors declare no potential conflicts of interest.

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