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Original research

A retrospective service audit of a mobile physiotherapy unit on the PGA European golf tour

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ABSTRACT

Objectives: A 2-year retrospective audit was conducted to evaluate injury diagnosis and treatment provision from a mobile physiotherapy unit serving the Professional Golf Association (PGA) European Tour.

Design: Across two competitive seasons (2005/06), service data was collected at 36 tournaments (18 in 2005 and 18 in 2006). Service at each tournament was from Tuesday to Sunday, and equated to 216 days in total. Each approach made to the unit throughout this time was anonymously recorded as either i) a 'contact' where an injury diagnosis and/or treatment was provided, or ii) a 'non-contact' where no service was administered and players used the on-board fitness suite.

Results: Across the audit period a total of 7430 approaches were made to the unit, equating to 206 per event or 34 per service day. From all approaches 6705 'contacts' were documented with 2328 injuries recorded. A total of 9933 separate treatments were administered equating to 276 per event or 46 per day. Non-contacts equated to 725, representing only 9.8% of all approaches. Of the 2328 reported injuries, 66.6% (1551) were back-related, with 16.6% (385) and 16.8% (392), being related to upper and lower limbs, respectively. Of the 9933 treatments, 71.3% (7087) related to massage (40.7%), manipulation (15.6%) and stretching therapies (15.0%). As an overall trend, the total number of injury diagnoses and treatments increased across the 2-year period. The number of reported injuries rose by 25.6% (2005 = 1032; 2006 = 1296), whilst treatments rose by 17.2% (2005 = 4575; 2006 = 5359).

Conclusions: This retrospective audit provides a valuable insight into a servicing mobile physiotherapy unit on a professional sporting tour. Findings reveal the specific type and location of injuries encountered by PGA European Tour players as well as the range of treatments administered. In developing effective support services to the professional player on tour, data presented will allow for a more structured injury management system based of typical injury occurrence and treatment provision.

1. Introduction

With a growing worldwide schedule on the professional golf tour, the demand on players to repeatedly perform optimally to ensure ranking points and secure income can place tremendous strain on the body's physical capabilities. Explained through playing habits and inappropriate biomechanical swing characteristics (McCarroll & Gioe, 1982; Thériault & Lachance, 1998) such strain can lead to acute physical breakdown (McHardy, Pollard, & Luo, 2006). Considering the physical requirements to perform repeated dynamic movement (Hume, Keogh, & Reid, 2005) coupled with the pressures to succeed on the professional circuit, the likelihood of injury occurrence throughout the season will as a consequence be increased (McCarroll & Gioe, 1982). With the resultant negative impact on performance success, any injury onset for the touring player must be appropriately managed whilst on tour to ensure optimal playing capabilities are reinstated as quickly as possible.

It must be viewed that with in excess of 2000 swings being performed by the professional through practice and competition per week (Pink, Perry, & Jobe, 1993), such repetitive musculoskeletal involvement will increase the risk of golf-specific injuries. Consequently, the concern for the tour professional is that when injury ensues, a correct diagnosis, followed by immediate and effective treatment ensures rapid and effective recovery.

As reported in previous epidemiological studies, the prevalence of injury-related conditions on the professional player has highlighted trends in injury frequency and site location (Gosheger, Liem,

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Luwig, Greshake, & Winklemann, 2003; Hadden, Kelly, & Pumford, 1992; McCarroll & Gioe, 1982; Sugaya, Tschiya, & Moriya, 1999). Self-assessment retrospective questionnaire data from select respondents has provided some insight into the actual injury prevalence during the professional season. To date however no data are currently available to illustrate typical treatments administered during professional tournament play. The need for diagnostic evaluations by clinical practitioners to accurately catalogue player injury profiles during the long tour schedule would add validity to findings. Furthermore, documentary detail outlining injury treatments would update existing epidemiological data to allow for the development of more effective and efficient service provision supporting professional athletes during competitive involvement.

Averaging two injuries per year (McCarroll & Gioe, 1982), the touring player needs to receive supportive attention to assist in the management of injuries in order to prevent lost playing time. Based on previous reports (Hellström, 2002; McHardy et al., 2006), it is not unrealistic to assume that players who develop injuries during the course of the season carry these from one tournament to the next. Complete recovery may only occur when such injury causes extended rest from the player's schedule or a natural break in their schedule allows for more specific rehabilitation. For the player therefore, access to specialists during the tournament may provide the 'quick fix' solution until the end of season when more extended treatment can be applied.

The purpose of the study therefore was to conduct a 2-year retrospective audit on service provision provided by a mobile physiotherapy unit attending a number of PGA European Tour events. By providing a valuable insight into such service provision offered by a mobile unit, it is hoped that data will allow for more structured management of injuries during tournament play to assist the player in reinstating optimal playing capabilities. Furthermore, it is hoped that findings from the present study will allow for the development of more golf-specific diagnostic and treatment tools in order to provide effective support services to the professional player both within and between tournament play.

2. Design

This retrospective cohort study design utilized service data collected at 36 separate events over a 2-year competition period on the PGA European Tour (Table 1). Exposure data was obtained from the unit's annual summative records with all personal details removed. All players provided consent for the use of anonymous summative data in accordance with the European PGA Tour privacy policy and approval for the study was granted by the ethics committee in accordance with the University of Lincoln's ethical guidelines.

The tour schedules for 2005 and 2006 each comprised 48 separate events (including Major and World Championships) running from November to November. Each event was typically separated by a week and although named the European Tour, players are required to travel as far as Asia and Australasia. The format for each tournament was as follows; Players would arrive at the event venue on Monday/Tuesday for single or multi-day practice rounds. The competition would officially begin on Thursday with around 150 players completing two rounds over the course of two days. At the end of Friday, players would be informed whether their performance score was low enough to enable then to carry on and compete in the final two days. Those that were successful (70–80 players) and made the 'cut' would then complete a further two days of play (two further rounds) ending on Sunday. Based on the player's success and planned yearly schedule it would not be unrealistic for touring professionals to compete in the majority of these events.

Table 1
2005/2006 European PGA Tour events in which service data was recorded by the mobile physiotherapy unit.

2005 Season	2006 Season
May	
–	Italian Open
Irish Open	Irish Open
PGA Championship	BMW Championship
June	
Wales Open	Wales Open
–	Austrian Open
St Omer Open	St Omer Open
Open de France	Open de France
July	
European Open	European Open
Scottish Open	Scottish Open
Open Championship	Open Championship
Deutsche Bank TPC Open	Deutsche Bank TPC Open
August	
Scandinavian Masters	Scandinavian Masters
KLM Dutch Open	KLM Dutch Open
Scottish PGA Championship	Scottish PGA Championship
BMW International Open	BMW International Open
September	
European Masters	European Masters
German Masters	–
–	WGC Amex Championship
October	
Open de Madrid	–
Turespana Mallorca Classic	Turespana Mallorca Classic
Volvo Masters	–

Throughout the 2005 and 2006 season, a specialist mobile physiotherapy unit attended 50 tournaments with service data recorded at 18 per year (Table 1). Launched in 1992 to provide the player with a service to support their on and off-course performance, the mobile unit, run by four qualified practitioners (two physiotherapists, one chiropractor and one osteopath), offer the players the opportunity to receive full diagnosis and treatment for any golf-related injury as well as access to a fully-equipped fitness suite for strength and conditioning workouts.

Throughout all tournaments, the physiotherapy unit began service on Tuesday morning and ceased at the tournament end on Sunday. Any approach made to the unit was anonymously coded and recorded on a secure password-protected computer system. Each approach was recorded as either i) a 'contact' where all associated practitioner administered activities were documented or, ii) a 'non-contact' where all associated activities were not documented. In the case of non-contact approaches, players typically used the fitness area and/or sought informal advice/guidance from the practitioners. When an approach was recorded as a 'contact' a full evaluation by a qualified practitioner was conducted. This would involve diagnosis of the injury-related problem and/or the administration of appropriate treatment. An 'injury' in this context was defined as an event or incident, which occurred during training or match play, which necessitated attention from the unit's practitioners. Details relating to the number of single approaches, the number of contacts and non-contacts, the number, type and location of injury-related problems recorded, and the subsequent treatments were all documented. It must be recognized that any one player may have made several approaches to the unit in any one day or over the course of an event. Due to the nature of the data recording procedures, individual player patterns were not documented. All anonymous summary data was tabulated and subjected to descriptive statistical analyses using SPSS software.