

Original Research

Roles And Responsibilities Of The Physical Therapist In Collegiate Athletics: Results Of A National Survey

Michael Zarro¹ ^a, Oliver Silverson², Wade Soenksen³, Jill Thein-Nissenbaum⁴, Elise Cataldo Cirone⁵, Robert Rowland⁶, Justin Staker²

¹ Physical Therapy and Rehabilitation Science; Orthopaedics, University of Maryland School of Medicine, ² Rehabilitation Medicine, University of Minnesota, Medical School, Division of Rehabilitation Science, ³ Intercollegiate Athletics Urbana-Champaign, Carle Health, University of Illinois, ⁴ Physical Therapy, University of Wisconsin-Madison, School of Medicine and Public Health, ⁵ Athletics, Northwestern University, ⁶ Physical Therapy and Rehabilitation Science, Orthopaedics, University of Maryland School of Medicine

Keywords: sports medicine, rehabilitation, physical therapy, collegiate athletics, collaborative care

<https://doi.org/10.26603/001c.38015>

International Journal of Sports Physical Therapy

Background

Over the past decade, there has been an increased focus on collaboration within collegiate athletics based sports medicine. Specifically, athletic trainers (ATs) and physical therapists (PTs) are working together, often side-by-side, to provide optimal care for the injured athlete. However, the roles and responsibilities of the PT within this model are currently not well described.

Purpose

The purpose of this study was to identify educational training, credentials, roles, and responsibilities of the PT working with collegiate athletes.

Study Design

Cross-sectional survey

Methods

An anonymous, descriptive online survey focusing on the demographic and occupational characteristics of PTs providing care for collegiate athletes was created and distributed electronically through the American Academy of Sports Physical Therapy (AASPT), a subgroup within the American Physical Therapy Association (APTA).

Results

One hundred forty eligible responses were included. Sixty-four percent (90/140) of the respondents were male; 86% of the respondents (120/140) reported working in the National Collegiate Athletic Association (NCAA) Division I setting. Half (70/140) of respondents were also ATs, and 60% (83/140) were board-certified sports clinical specialists (SCS). All respondents (140/140) provide rehabilitation exercises; nearly all provide sports performance enhancement and manual therapy (97%, 136/140 and 96%, 135/140, respectively). Other identified roles and responsibilities included communication with the athletic training staff, event coverage, and personnel management.

Conclusions

The role of the PT within collegiate athletics sports medicine is highly varied; years of experience, certification, credentials, and location of patient care are also variable.

^a Corresponding author:

Michael Zarro

University of Maryland School of Medicine, Department of Physical Therapy and Rehabilitation Science, Department of Orthopaedics, Baltimore, MD, 20742

Michael.zarro@som.umaryland.edu

Clinical Relevance

PTs working in a collegiate athletics sports medicine setting have many paths to entry and diverse job duties. PTs interested in working in this setting should prioritize developing relevant experience and communication skills.

Level of Evidence

Level 3b

INTRODUCTION

The past decade has brought a paradigm shift in collegiate athletics sports medicine. In order to provide optimal outcomes and best practice, there has been an effort to elevate the provision of medical services and increase interprofessional practice and collaboration.^{1,2} A hallmark of collaborative care is multiple caregivers from different professions utilizing best practices to improve patient outcomes.^{3,4} When this model is superimposed upon collegiate athletics, the athlete (patient) may be supported by the athletic trainer (AT), primary care physician, orthopedic surgeon, physical therapist (PT), mental health counselor, strength and conditioning coach, dietician, and many others.⁵

The field of physical therapy traverses a broad continuum relating to age, gender, impairments, and functional limitations. By definition, a sports PT specializes in the health care management of the physically active individual that has been injured or aspires to return to athletic endeavors; they use evidence-based sports science to create and execute a customized plan of injury prevention, performance enhancement, management of an acute care injury, and return to sport.⁶ This includes earning the designation Sports Clinical Specialist (SCS) by the American Board of PT Specialties (ABPTS) which demonstrates competence in the field of sports physical therapy. To date, board specialization is not mandatory, nor does it directly affect the ability to practice PT in any setting. Specific to sports, the collegiate setting is an environment in which a PT can utilize their skill set to care for student athletes by working collaboratively with the AT and the rest of the sports medicine team. Support for the collaboration between the PT and AT professions has been aided in-part by the American Physical Therapy Association (APTA) and National Athletic Trainers' Association (NATA) stating a partnered agenda via professional addresses and collaborative educational conferences.^{7,8}

At present, in the collegiate athletics sport medicine setting, the fundamental roles and responsibilities of ATs and physicians have been well-defined.⁹ The AT is responsible for overseeing and directing care for student athletes while team physicians provide additional medical diagnosis and treatment. However, the roles and responsibilities of the PT working in a collegiate environment are not well known. Therefore, the purpose of this study was to identify educational training, credentials, roles, and responsibilities of the PT who provides care as a member of the collegiate athletic sports medicine teams. The hypotheses were that the PT will have additional certifications and/or credentials beyond that of an entry-level PT; and that their role as a

member of the collegiate athletic sports medicine team will extend beyond rehabilitation services.

METHODS

SURVEY DEVELOPMENT

The survey tool was initially developed by a group of PTs who are also American Academy of Sports Physical Therapy (AASPT) members (MZ, JTN, and JS) and provide physical therapy for collegiate athletes in the athletic training room at their respective universities. The group has over 20 years of experience working with collegiate athletes. The initial survey draft was piloted to seven additional AASPT members with experience in collegiate athletics or research methodology. The pilot group completed the electronic survey via an email link; they were not compensated. Their critique regarding the survey's questions, organization, and readability enhanced the face validity of the content. Based on this collective input, the survey was modified and a final document was prepared and reviewed by all authors. The survey was uploaded to Google Forms (Alphabet Inc, Mountain View, CA), which has previously been demonstrated to be an appropriate electronic survey system for medical questionnaires.¹⁰ The survey was designed to take less than 10 minutes to complete. This study was approved by the University of Maryland, Baltimore Institutional Review Board prior to survey distribution.

An invitation email to AASPT members and a post on the AASPT website announced the purpose of the survey, emphasized anonymity through aggregate-only reporting, and informed individuals that voluntary consent was designated by responding to the survey. The link to the survey was available on the AASPT website for four weeks; two email reminders were sent to membership during that timeframe, encouraging them to complete the survey and to share the link with non-AASPT members who were known to treat collegiate athletes. Inclusion criteria required respondents to be licensed PTs with a formal, established, working relationship with a United States collegiate athletic department. Responses were excluded from PTs who worked with collegiate athletes on a volunteer basis only or who worked with collegiate athletes in an unaffiliated outpatient office.

The survey asked about demographic and educational background, such as age, gender, years of experience, residency completion, and information regarding other credentials or certifications. Specific roles and responsibilities of the PT were also identified. Lastly, information relating to employer (athletics, contract work, or other) was obtained.

Data regarding whether remuneration was utilized (insurance or other reimbursement) was also acquired.

DESCRIPTIVE STATISTICS

Descriptive statistics were used to summarize the sample population using frequency counts for categorical variables and means and standard deviations for continuous variables. Responses that were written in by respondents were manually coded. Exploratory analysis consisted of several group comparisons related to work history and number of job duties. Specifically, the number of years in college athletics between self-identifying female and male respondents and between PTs and dual PT/ATs were compared. Additionally, the number of job duties between self-identifying female and male respondents, between PTs and dual PT/ATs, and between respondents with more or less than 15 years of PT experience were compared.

Prior to comparison, normality of data was assessed by visually observing the histograms of variables and performing a Shapiro-Wilk test. In the instance of non-normal data, a Wilcoxon signed rank test was used. Ninety-five percent confidence intervals (95% CI) were computed for all comparisons. Alpha was set *a priori* at 0.05. Data were analyzed using R Version 3.6.1 (R Foundation for Statistical Computing, Vienna, Austria).

RESULTS

GENERAL DEMOGRAPHICS

Of the 6,106 AASPT members who the survey was emailed to in 2020, 183 completed surveys for a 2.91% response rate. Of the responses, 140 met the inclusion criteria and were included in the final analysis. A summary of demographic information of the respondents is presented in [Table 1](#). The mean number of years in practice was 15.7 years; nine years were spent working with collegiate athletes. The majority of respondents [64% (90/140)] identified as male. Most respondents [86% (120/140)] reported working with NCAA Division I athletes; various additional credentials (SCS) or certifications (AT) were held by the respondents.

OPERATIONAL CHARACTERISTICS

The employer category, location of service, financial model, and hours per week are presented in [Table 2](#). Forty-three percent (60/140) of respondents reported working for a healthcare company that contracted with the athletic department. Of the respondents, 30% (42/140) provided some and 61% (85/140) provided all their care on-site at an athletic department facility. Fifty-six percent (79/140) respondents indicated they worked less than 50% of the work week with the athletic department. Regarding reimbursement, 39% (54/140) of respondents reported seeking insurance reimbursement for their services.

JOB RESPONSIBILITIES AND TREATMENTS PROVIDED

Daily job responsibilities and treatments rendered by survey respondents are presented in [Table 3](#) and [Table 4](#), respectively. Ninety percent (126/140) of the sample indicated they communicated directly with athletics staff and 44% (61/140) of the sample indicated they were involved with event coverage. One hundred percent (140/140) respondents reported providing rehabilitation exercise.

GROUP COMPARISONS

The summary statistics for the variables in the group comparisons are displayed in [Table 5](#). No data for group comparisons were normally distributed. Respondents with more than 15 years of PT experience had significantly more job duties than those with less than 15 years of PT experience ($p=0.031$; 95% CI: -1.0, -0.01). Given that less than 1% ($n=1$) of respondents did not self-identify as male or female, this group was not able to be included in the following group comparisons. There was no significant difference in years in collegiate athletics between self-identifying males and females ($p=0.418$; 95% CI: -2.99, 1.00) or respondents who PT/ATs compared to those who were PTs ($p=0.110$; 95% CI: -3.99, 0.001). There was also no significant difference in the number of job duties between individuals self-identifying as male or female ($p=0.988$; 95% CI: -1.00, 1.00) or those who were PTs or PT/ATs ($p=0.080$; 95% CI: -1.0, 0.001).

DISCUSSION

The purpose of this study was to identify patterns and themes in the educational training, credentials, roles, and responsibilities of the PT working in collegiate athletes. The results of the survey suggests that these PTs possess additional credentials beyond entry level PTs and their responsibilities extend beyond rehabilitation care alone. Although varied educational background, years of experience, and responsibilities were identified, common practice themes emerged from the survey results that warrant further discussion.

DEMOGRAPHICS

Of the respondents, 35% (49/140) identified as female, and 64% (90/140) identified as male, while <1% preferred not to answer. Presently, the AASPT is comprised of 6,298 PT members, 38% of which identify as female, 57% as male, and 5% whom preferred not to answer. As such, the findings are reflective of the AASPT demographic data. In a similar study of the gender composition of team physicians in select NCAA Division I and professional teams, women comprised 18.1% of all team physicians and 7.7% of orthopaedic surgeon team physicians, a lower percentage than observed in the current study.¹¹ While the gender demographics in this survey may be equitable when compared to AASPT membership, this cannot be generalized to all PTs or the medical field.

In the 2020-2021 academic year, 44% of collegiate student athletes identified as female.¹² The NCAA reporting of

Table 1. Sample Demographics

		N	Percent of sample	Mean	SD
Gender	Female	49	35%		
	Male	90	64%		
	Prefer not to answer	1	<1%		
Years as PT		140	100%	15.7	11.6
Years in college athletics		140	100%	9.4	9.1
Years in current position		140	100%	7.7	8.4
Athletic level	NCAA Division I	120	86%		
	NCAA Division II	16	11%		
	NCAA Division III	20	14%		
	NAIA	8	6%		
Specialty training	Sports residency	34	24%		
	Sports fellowship	10	7%		
	Orthopedic residency	3	2%		
Professional credentials	SCS	84	60%		
	AT	70	50%		
	CSCS	42	30%		
	OCS	33	24%		
	FAAOMPT	11	8%		
AASPT member	Yes	129	92%		
	No	11	8%		
Terminal degree	Bachelor's	27	19%		
	Master's	28	20%		
	Doctorate	66	47%		
	PhD/EdD	19	14%		

N: Number of participants who responded yes to that category; SD: standard deviation; NCAA: National Collegiate Athletic Association; NAIA: National Association of Intercollegiate Athletics; SCS: sports certified specialist; AT: athletic trainer; CSCS: certified strength and conditioning specialist; OCS: orthopedic certified specialist; FAAOMPT: Fellow of the American Academy of Orthopedic Manual Physical Therapists; PhD: Doctor of Philosophy; EdD: Doctor of Education.

athlete participation does not provide information for non-binary gender classification. Based on this data, female PTs are likely underrepresented in collegiate athletics sports medicine when compared to the percentages of female student athletes. Although not represented in NCAA participation data, individuals with non-binary identification may also be underrepresented by PTs in collegiate athletics.¹² As such, increasing the number of females and individuals identifying with a non-binary gender on the collaborative health care team should be considered.

As demonstrated in [Table 5](#), the number of years in college athletics as well as the number of job duties were similar between male and female genders. This implies that both male and female PTs have had similar roles and responsibilities in collegiate sports and have had a presence for approximately the same length of time. However, when compared to the percentage of female athletes in collegiate sports, the number of female PTs is lacking.

CREDENTIALS AND CERTIFICATIONS

Of the survey respondents, 60% reported being board certified in sports physical therapy, whereas only 24% reported

completing a sports residency ([Table 1](#)). As such, over half of the respondents completed eligibility requirements and successfully passed the SCS examination without completing a sports residency. In addition, half of the respondents reported that they were also ATs ([Table 1](#)) and 44% of all respondents reported that they were responsible for athletic event coverage ([Table 3](#)). It cannot be determined if those individuals who provide athletic event coverage were also dual credentialed PT/ATs. The fact that AT or post-professional PT training was not a universal finding suggests many viable paths to careers in collegiate athletics exist.

Interestingly, there were a greater number of respondents who identified as being a SCS (60%) then being an AT (50%). This finding may be based on numerous factors. First, the prevalence of the dual PT/ATs may be declining due to changes in AT education. Most recently, there has been a transition of the bachelor's degree to an entry level master's degree in athletic training education programs.¹³ Given the likely rise in tuition costs and time commitments, individuals may be less likely to complete both a master's degree in athletic training and a doctorate degree physical therapy. Second, the role of the PT only clinician in collegiate athletics may be sufficient as specialty PT training

Table 2. Occupational Characteristics

		N	Percent of sample
Employer Category	Healthcare company	60	43%
	Academic department	38	27%
	Athletic department	32	23%
	Independent contractor	10	7%
Service location	On site	85	61%
	Off site	13	9%
	Combination	42	30%
Financial model	Wage-based	67	48%
	Insurance reimbursement	54	39%
	Mix of wage/insurance reimbursement	4	3%
	Fee per visit	4	3%
	Other	11	8%
Percent of role dedicated to athletic department	<25%	52	37%
	26-50%	27	19%
	51-75%	14	10%
	76-100%	47	34%

N: Number of participants who responded 'yes' to that category.

Table 3. Job Responsibilities

	N	Percent of sample
Communication with athletics staff	126	90%
Teaching	83	59%
Event coverage	61	44%
Research	54	39%
Rehabilitation coordinator	52	37%
Management of athletics personnel	43	31%
Sports science data management	32	23%

N: Number of participants who responded 'yes' to that category.

Table 4. Interventions provided by the sports PT

	N	Percent of sample
Rehabilitation exercises	140	100%
Sports performance enhancement	136	97%
Manual therapy	135	96%
Modalities	106	76%
Dry needling	78	56%

N: Number of participants who responded 'yes' to that category.

may provide relevant skillsets. For example, in the current study interventions such as rehabilitation exercises, sports performance enhancement and manual therapy were per-

formed by >95% of the respondents; dry needling was performed by 56% of the respondents (Table 4). Perhaps collegiate athletics sports medicine teams are seeking individuals to perform these skills, thereby allowing ATs to focus on other responsibilities, such as sideline and event coverage, emergency care for the injured athlete, and practice preparation. In the case of dry needling, the AT may be unable to perform this skill due to their respective state AT practice act. Therefore, PTs may demonstrate value in collegiate athletics sports medicine settings by excelling in the services they provide.

ROLES AND RESPONSIBILITIES, INTERVENTIONS PERFORMED

An important finding is that nearly all respondents (90%, 126/140) reported that they regularly communicated with the athletics staff. This finding is critical as communication is necessary to promote interprofessional collaboration and successful outcomes for the student-athlete. Developing and maintaining a high-performance sports medicine team includes incorporation of best practices from within each profession, ongoing communication, operating in unison, incorporating diversity, and maintaining proper perspective.¹⁴

In addition, the number of job duties did not differ between self-identified male and female genders or between PTs and PT/ATs (Table 5). The only difference regarding the number of job responsibilities was related to years of experience. Those PTs with greater than 15 years of experience had statistically more job responsibilities than those with less than 15 years of experience, suggesting cumulative experience may influence career advancement more than gender or credentials.

Table 5. Summary statistics and results from group comparisons between males and females

	Males	Females	p-value (95% CI)
	mean (SD)	mean (SD)	
Years in college athletics	10.51 (10.48)	7.37 (5.43)	0.418 (-2.99, 1.00)
Number of job duties	3.23 (1.57)	3.20 (1.70)	0.988 (-1.0, 1.0)
	PT/AT	PT	
	mean (SD)	mean (SD)	
Years in college athletics	11.25 (10.49)	7.62 (7.09)	0.110 (-3.99, 0.001)
Number of job duties	3.47 (1.65)	2.97 (1.53)	0.080 (-1.0, 0.001)
	PTs >15 years	PTs <15 years	
	mean (SD)	mean (SD)	
Number of job duties	3.56 (1.66)	2.96 (1.52)	0.031 (-1.0, -0.01)

SD: standard deviation; CI: confidence interval; PT: physical therapist; AT: athletic trainer; PT/AT: PT who is also an AT

OCCUPATIONAL CHARACTERISTICS

The data from the present study demonstrate that most PTs provide care for NCAA Division I athletes rather than other NCAA divisional levels or NAIA programs (Table 1). This finding mirrors previous studies that Division I programs staff significantly more full-time and part-time ATs than Division II, Division III, and NAIA programs; specifically, the average number of full-time ATs per department at the Division I, Division II, Division III, and NAIA levels were 10.4, 3.8, 3.3, and 2.4 respectively.^{1,15} In addition, the ratio of student-athletes to AT increases significantly between Division I and Division III. In Division I, the ratio of student-athletes to AT averages 58:1. In Division II and III, the ratio of student-athletes to AT increases to 118.3:1 and 137.5:1, respectively.¹ As such, one could argue that the Division II and III levels present an opportunity for PTs wishing to support college athletes with potentially fewer resources.

The results found that PTs in collegiate athletics are employed in various ways. Half of all respondents are employed within the academic institution, either as an employee of the athletic department or employee of an academic department (Table 2). Forty-three percent of respondents reported being employed by a health care company. As such, the respondents are nearly split equally between being employed by a health care company or being employed by the academic institution. This variation in employer category suggests that each athletic department may have unique resources and relationships that dictate their staffing models and that a variety of models may be viable.

Interestingly, 91% of respondents provide care for the athlete in the athletic training room either exclusively (61%) or in a combined on-site/off-site model (30%) (Table 2). However, to collaborate effectively across the team and raise the visibility of physical therapy, the ability to provide on-site care may be an important trend to facilitate real-time communication and collaboration.

LIMITATIONS

This survey has several limitations that should be addressed. First, the survey was disseminated via the AASPT website and electronic communication; therefore, identifying non-AASPT members practicing in the collegiate setting was difficult. Further, it is likely that all genders of PTs working in collegiate athletics were not fully accounted for in the survey. The survey question requesting self-identification was developed in line with how demographics are reported for the AASPT but are not in keeping with current best practices, i.e. using questions that use gender confirmatory language to permit self-identification of gender in a more inclusive manner. Individuals who do not identify as male or female may have not responded to the survey for that reason alone and are therefore under-represented in the results. Further, no demographics of race or ethnic background were accounted for in the study. This information would be helpful to further identify areas for growth and inclusion in the collegiate athletics settings. Doing so would likely improve outcomes amongst the diverse population of collegiate athletes served by PTs. Lastly, the survey was conducted during the COVID-19 pandemic, which may have affected the response rate or altered the roles of those participating in the study at the time. Further research should include deeper insights into demographic information (gender, race, ethnicity, education), specific interventions performed, detailed job descriptions, and service locations. A qualitative study seeking deeper understanding of these aspects of practice as well as monitoring these data longitudinally will provide useful information on how PTs can improve care in collaboration with collegiate sports health care teams.

CONCLUSIONS

The results of this survey research highlight demographic, occupational characteristics, roles, and responsibilities of PTs providing care in collegiate athletics sports medicine in

the United States. Themes that appeared were the underrepresentation of female professionals, variability of credentials and post-professional PT education, and a smaller presence in Division II, III, and NAIA institutions. Commonality was found regarding use of treatment methods such as rehabilitation exercise, sports performance enhancement, and manual therapy. Given the rising emphasis of interprofessional collaboration within collegiate athletics sports medicine teams, it appears PTs provide a unique skillset that can support student athletics and their healthcare colleagues. Further research into other team members' perspective of PTs in collegiate athletics sports medicine may help to define and maximize the efficacy of PT practice in this setting. Financial and administrative models need to be better understood to ensure long term sustainability of

these roles. As the field of sports medicine evolves to improve collaborative care, this survey highlights the current roles and responsibilities of the PT working in the collegiate athletics sports medicine setting and serves as a starting point for further understanding and development of the sports PT specialty.

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CONFLICTS OF INTEREST

The authors have no financial disclosures or conflicts of interest.

Submitted: December 18, 2021 CDT, Accepted: June 10, 2022 CDT



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