

# Physician Satisfaction With Residency-Trained Athletic Trainers as Physician Extenders

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Athletic trainers (ATs) have historically functioned in a physician extender role when managing the health of competitive athletes in high school, collegiate, and professional settings. A high level of expertise in the prevention and management of musculoskeletal disorders among physically active individuals has been recognized by physicians who have chosen to utilize ATs as physician extenders in orthopedic and sports medicine clinical operations. The development of postprofessional

residency programs that provide specialized education and clinical experiences to prepare ATs to effectively function as orthopedic physician extenders has greatly facilitated physician acceptance of the role, which has dramatically increased the number of ATs working in the orthopedic clinical setting.<sup>1-2</sup> Such residency

programs provide ATs with experience in taking detailed patient histories, performing thorough patient exams, and presenting the findings to the attending physician for delivery of efficient and patient-centered care. The physician can focus on making the diagnosis and developing a plan of care, while relying

on the AT to provide appropriate therapeutic exercise instructions, educate the patient about the plan of care, and complete specific components of the clinical documentation.<sup>1-2</sup>

Previous studies have demonstrated that utilization of the residency-trained AT physician extender (AT-PE) has increased clinical efficiency (i.e., patient volume and revenue generation) and improved patient outcomes.<sup>3-5</sup> Physician satisfaction with this approach to delivery of orthopedic clinical services has not been previously documented. Thus, the purpose of this study was to assess physician satisfaction with the performance of residency-trained AT-PEs in the delivery of orthopedic clinical services.

## Procedures and Findings

A list of orthopedic clinical practices that have employed AT-PEs who completed one of the 8 existing residency programs was used to identify potential participants in this study. With Institutional Review Board approval, surveys were emailed to 40 sports medicine fellowship-trained orthopedic surgeons and primary care physicians in 11 different states. The response rate was 88% (35/40).

A web-based electronic survey was created that included 2 demographic "Yes/No" questions and 8 Likert-type ratings of degree of satisfaction with the performance

## KEY POINTS

- ▶ Physicians are satisfied with athletic trainers who function as physician extenders.
- ▶ Physicians perceive athletic trainers-physician extenders (AT-PEs) as an asset to their clinical operations.
- ▶ Physicians perceive AT-PEs as skilled providers of orthopedic clinical services.

of AT-PEs on a 1–10 scale (i.e., 1–2 = not at all; 3–4 = minimal; 5–6 = adequate; 7–8 = very well; 9–10 = exceptional). The electronic survey was accessed through a link that was provided in the email message sent to prospective participants. The ratings specifically addressed physician satisfaction with the preparedness of the AT-PE for clinical integration, comparison of clinical skills of the AT-PE to those of ATs who have not completed a residency program, and to other clinicians who function in a physician extender role, and the impact of AT-PE utilization on the physician’s quality of life (Tables 1 and 2).

Physicians reported that residency-trained AT-PEs were “very well” prepared for integration into their clinical operations ( $8.74 \pm 1.04$ ) and that their clinical musculoskeletal skills were “very good” compared to

those of physician assistants and nurse practitioners ( $8.03 \pm 1.79$ ). They reported improved quality of life ( $8.46 \pm 1.67$ ), benefit realized from having an AT-PE in the clinic ( $8.09 \pm 1.79$ ), and a very high degree of overall satisfaction with the addition of an AT-PE to their clinical operations ( $9.06 \pm 1.08$ ).

## Discussion

Athletic trainers have essentially functioned as physician extenders in the competitive sports setting since the emergence of the profession. In recent years, ATs have assumed population health management roles in a wide variety of settings, including the outpatient orthopedic clinic. The benefits of utilizing ATs as physician extenders have been recognized by orthopedic surgeons, such as Xerogeanes,<sup>1</sup> which facilitated the development and growth of additional one-year training programs designed to enhance the ATs’ ability to effectively function as physician extenders in the orthopedic sports medicine clinical setting.<sup>2</sup> The results of this study suggest that physicians are highly satisfied with the performance of AT-PEs who have completed one of the three existing residency programs.

An assessment of the financial impact of AT-PEs documented increased patient volume and increased revenue generation.<sup>3</sup> This study tracked patient encounters, charges, and collections over a 12-month period for 2 primary care sports medicine physicians who had a medical assistant for 6 months and an AT-PE for 6 months. The physicians were able to see 18–22% more patients per day and collections increased 10–60% when an AT-PE was utilized.<sup>3</sup> Greene et al.<sup>4</sup> conducted a similar study that documented a 15–30% increase in patient volume for orthopedic surgeons and a 10–20% increase in patient volume for primary care physicians. In addition to the favorable financial impact of AT-PE utilization, patients perceive them to be qualified and effective clinicians.<sup>6</sup> Patients were asked to rate the education level, knowledge, and abilities of the first clinician they encountered, which was either a medical resident or an AT-PE. Patients rated AT-PEs similarly to medical residents in all categories, and they rated AT-PEs more favorably than medical residents in efficiently managing care, demonstration of strong communication skills, and overall satisfaction of the clinician.<sup>6</sup> The findings from our physician survey further support the value of AT-PEs for delivery of patient-centered care.

**TABLE 1. PHYSICIAN RATINGS OF RESIDENCY-TRAINED ATHLETIC TRAINER–PHYSICIAN EXTENDER CLINICAL SKILLS**

Question	Mean ± SD
How prepared do you feel an AT-PE is to be integrated into your clinic?	$8.74 \pm 1.04$
Comparing clinical skills of an AT-PE to a nonresidency-trained AT	$7.89 \pm 2.00$
Comparing MSK skills of AT-PE to entry-level PA or NP	$8.03 \pm 1.79$
Comparing clinical skills of AT-PE to MA	$9.17 \pm 0.98$

**TABLE 2. PHYSICIAN SATISFACTION WITH RESIDENCY-TRAINED ATHLETIC TRAINER–PHYSICIAN EXTENDER ROLE PERFORMANCE**

Question	Mean ± SD
Extent to which you feel patient satisfaction has improved from having an AT-PE in your clinic	$7.89 \pm 1.94$
Extent to which your quality of life has improved from having an AT-PE in your practice*	$8.46 \pm 1.67$
Extent to which your clinic has benefited from having an AT-PE versus other physician extenders*	$8.09 \pm 1.79$
Your overall satisfaction with utilizing an AT-PE	$9.06 \pm 1.08$

\* More physician time with patients, improved workflow, and increased patient volume.

There were several limitations that should be considered for interpretation of the results of our study. Many medical practices employ ATs who have not completed a residency program, and many of them do not recognize the physician extender role as one that ATs are qualified to fulfill. Another limitation was the use of a survey that has unknown psychometric properties. Because the survey responses were only used for a descriptive purpose, and the fact that the numerical values associated with the responses were not combined to calculate an overall score, the face validity of each item was deemed the most important consideration in the survey development process. If the survey is used in the future for the purposes of comparison, between groups of participants or change over time, assessment of the internal consistency and test-retest reliability of item responses should be established.

Future studies should compare patient and physician satisfaction with clinical services provided by AT-PEs in the orthopedic setting, including comparison of ratings for ATs who have completed a residency program with those who have not. Such research could identify strengths and weaknesses of existing residency programs that prepare ATs to function in the physician extender role, and ultimately improve orthopedic patient outcomes.

## Conclusions

The physicians' survey responses indicate that they are highly satisfied with the orthopedic skills that res-

idency-trained AT-PEs possess, and that they perceive an improvement in their own quality of life as a result of having an AT-PE involved in clinical operations. The physician extender role appears to offer an extremely good opportunity for expansion of the clinical practice options available to ATs. ■

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