American Journal of Emergency Medicine xxx (2018) xxx–xxx

Contents lists available at ScienceDirect

American Journal of Emergency Medicine

journal homepage: www.elsevier.com/locate/ajem

Physical therapy in the emergency department: A new opportunity for collaborative care

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ARTICLE INFO

Article history:
Received 13 April 2018
Received in revised form 18 May 2018
Accepted 24 May 2018
Available online xxxx

Keywords:
Physical therapy
Musculoskeletal
Vestibular
Older adults

ABSTRACT

Emergency department-initiated physical therapy (ED PT) is an emerging resource in the United States, with the number of ED PT programs in the United States growing rapidly over the last decade. In this collaborative model of care, physical therapists are consulted by the treating ED physician to assist in the evaluation and treatment of a number of movement and functional disorders, such as low back pain, peripheral vertigo, and various gait disturbances. Patients receiving ED PT benefit from the physical therapist's expertise in musculoskeletal and vestibular conditions and from the individualized attention provided in a typical bedside evaluation and treatment session, which includes education on expected symptom trajectory, recommendations for activity modulation, and facilitated outpatient follow-up. Early data suggest that both physicians and patients view ED PT services favorably, and that ED PT is associated with improvement of several important clinical and operational outcomes. Hospital systems interested in building their own ED PT program may benefit from the key steps outlined in this review, as well as a summary of the typical clinical volumes and practice patterns encountered at existing programs around the country.

1. Introduction

Emergency departments (EDs) in the United States are increasingly utilizing physical therapists to meet the acute care needs of their patients. Although frequently positioned in EDs in the United Kingdom and Australia [1], physical therapists have only recently established a footprint in United States (U.S.) emergency departments despite support of this collaborative practice arrangement from the American Physical Therapy Association [1,2]. However, as ED patient volumes continue to rise and the proportion of older adults grows larger, so does the need for innovative and collaborative health care delivery approaches such as ED-initiated physical therapy (PT). Over the last two decades, a number of hospital systems have therefore integrated physical therapy services into the ED workflow and have documented their experience [3-6]. As of 2014, an estimated 23 hospital systems reported utilizing ED physical therapists, with an average of 1.7 full-time therapists per week [7]. The purpose of this review article is to describe the scope and potential impact of ED PT services, summarize data on the clinical volume and practice patterns of existing ED PT programs, and outline key steps involved in building a new ED PT program.

2. Clinical applications

In the U.S., ED physical therapists work within the traditional model of consultative care to provide bedside evaluation and treatment of patients at the request of the treating ED physician. In a typical consultation lasting around 45 min [3], the physical therapist conducts an independent history and physical examination, providing individualized and diagnosis-specific patient education, recommendations for activity and gait modulation, and instruction in therapeutic home exercises.

Notably, the U.S. model of care differs from the international model, in which physical therapists function as the primary ED care provider for lower acuity patients presenting to ED triage with musculoskeletal complaints [1]. Practicing without the need for referral, international ED physical therapists assess and treat patients independently as "extended scope physiotherapists," and in some instances have the ability to order and interpret imaging and prescribe certain medications [8,9]. Importantly, this review article will focus on the U.S. model of care,

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https://doi.org/10.1016/j.ajem.2018.05.053
0735-6757/

in which ED physical therapists function in the role of secondary consultants rather than primary contact providers or extended scope physiotherapists.

2.1. Acute musculoskeletal injury

With respect to patients presenting with musculoskeletal problems, ED physical therapists are most frequently consulted for clinical conditions relating to back or neck pain, with some programs reporting more than half of all ED consults being for these reasons [1,3]. Other frequent sources of consultation include hip pain, knee pain, and shoulder pain. ED patients benefit from the physical therapists' unique training and experience in musculoskeletal management, which physicians have acknowledged as a limitation in their medical training [5,10]. This deficiency is not surprising, given that nearly half of all U.S. medical schools do not require curriculum in musculoskeletal medicine [11], and emergency medicine training has traditionally focused on the diagnosis and management of acute, life-threatening conditions.

In a typical consultation for low back pain, the physical therapist may assist the ED physician in arriving at a more specific diagnosis, such as piriformis syndrome or lumbar radiculopathy, then provide the patient with education on the expected symptom trajectory after ED discharge, instruction on activity modification and home exercise techniques, and counseling on return precautions. Physical therapists also provide patients and physicians with key information needed to navigate the complex system of outpatient referrals, such as the need for a physical referral order, proper insurance coverage, expected frequency of visits, and expected content of each outpatient PT session. ED practitioners have cited the added value of this service, which results in a more comprehensive diagnosis and treatment plan than is typically possible single provider encounters and allows for the allocation of physician time to other critical tasks [5].

Initial reports from U.S. hospital systems that have established ED PT services have cited increased provider and patient satisfaction, decreased wait times, and decreased rates of admission to the hospital for patients with orthopedic conditions [3,4,6]. Although these published narratives fall short of rigorously controlled studies, there are several well-conducted studies in the outpatient setting that point to a potential benefit of early PT initiation in the ED care environment [12-14]. In a randomized controlled trial of early PT initiation for acute low back pain in primary care, patients receiving early PT exhibited greater functional improvement than those receiving usual care [15].

2.2. Peripheral Vertigo

During entry-level education, all physical therapists receive formal training in assessing and treating vestibular disorders and must demonstrate competence in these areas to obtain licensure [16]. ED physical therapists are therefore frequently called upon to evaluate patients with peripheral vertigo [5,17]. In a typical consultation for dizziness, physical therapists may utilize their expertise and training in vestibular conditions to identify specific etiologies of peripheral vertigo (e.g. benign paroxysmal positional vertigo), provide hands-on intervention as appropriate, instruct the patient in self-directed therapeutic maneuvers, and assess patient safety for discharge. Although physical therapy consultation typically occurs after the treating ED physician has reasonably excluded pathologic causes of vertigo (e.g. cerebellar stroke), concerning features of the therapist's exam may prompt the primary ED team to revisit their initial diagnosis and/or pursue further diagnostic testing. Conversely, a PT assessment that is concordant with the treating ED physician's suspected diagnosis of peripheral vertigo may assist in avoiding unnecessary advanced imaging or unnecessary neurology consultation.

The application of ED physical therapy to peripheral vertigo complaints may be particularly beneficial due to the prolonged duration of time required to adequately assess patients suffering from severe dizziness. As ED physicians are inherently tasked with simultaneously managing multiple patients and experience frequent interruptions [18], it is often difficult to complete a detailed vestibular exam involving multiple maneuvers. In hospital systems with ED physical therapy services, ED physicians have cited the tremendous value of physical therapists in that they can provide extended one-on-one time with the patient, educate the patient on vestibular symptoms, and provide instruction on recommended therapeutic maneuvers to perform at home [5]. In addition, having physical therapists capable of dedicating their time and effort in this capacity in the ED may result in an immediate and significant decrease in vertigo symptoms prior to discharge [19].

2.3. Gait training and disposition planning

The important role of physical therapists in evaluating patient mobility and home safety has been well documented in the inpatient setting [20,21]. Although this assessment has not traditionally been performed in the ED setting, the increasing frequency of inpatient boarding and the aging of the U.S. population have forced ED providers to take on non-traditional roles [22-24]. With this evolution, physical therapists are increasingly called upon to evaluate patients in the ED for home safety and assist in determining a safe patient disposition [7].

In some hospitals, this evaluation has become a vital component of multi-faceted interventions specifically targeted at older patient populations [25]. Several EDs recently collaborated under a Center for Medicare and Medicaid Services Innovation Grant to create a transitional care team for older adults, in which physical therapists are available to provide an advanced assessment of gait and transfer abilities when standard screening instruments (e.g. Timed Up & Go test) are not appropriate or are unsafe. Physical therapists may assist in selecting a more appropriate outcome measure in the case of existing patient impairment, and may also determine if any assistive device is required. These multidisciplinary intervention teams, which are led by ED nurses trained in older adult care transitions, have been demonstrated to reduce unnecessary hospital admissions [26].

Beyond older adult care, ED physical therapists may also assist in disposition planning for unique injury patterns in which standard assistive devices are not feasible – such as a patient with a concomitant ankle fracture and shoulder dislocation who cannot tolerate the use of crutches. PT evaluation may determine that alternative assistive devices, such as a knee scooter, are appropriate and may assist in the procurement of such equipment to avoid hospital admission. In scenarios where a PT evaluation determines that a patient *cannot* be safely discharged home, the reason for admission is well justified and the transition of care from the ED team to the accepting inpatient team is facilitated. Furthermore, in admitted patients who will ultimately require outpatient rehabilitation placement, initiation of the PT evaluation in the ED setting may expedite this lengthy process by promptly determining the most appropriate next level of care. Thus, PT evaluation of patient mobility and safety can be of great assistance in disposition planning and has been cited as a significant added value by ED physicians with access to PT services [5,27].

3. Additional intangible impacts

ED physical therapy may have a number of wide-reaching impacts beyond the clinical services described above. Published narratives from hospital systems implementing ED PT programs describe overwhelmingly positive feedback from ED physicians, and a number of small studies have noted increased patient satisfaction with overall care. The provision of PT services in the ED have also been viewed as a potential non-opioid alternative to pain management, and input from PT evaluations may assist in the avoidance of unnecessary diagnostic imaging, especially among patients with low back pain.

Please cite this article as: Kim HS, et al, Physical therapy in the emergency department: A new opportunity for collaborative care, American Journal of Emergency Medicine (2018), https://doi.org/10.1016/j.ajem.2018.05.053