

Flatten the Curve

THE ROLE OF CHIROPRACTORS
IN MUSCULOSKELETAL TRIAGE





Cases **without** protective measures

Healthcare Capacity

Cases **with** protective measures

FLATTEN THE CURVE

Factors

Burden



Exposure



“One problem is in the emergency department, where crowding is identified as a major concern.”

JAMA, 12 MARCH, 2020

ADAMS, J. G., & WALLS, R. M. (2020). SUPPORTING THE HEALTH CARE WORKFORCE DURING THE COVID-19 GLOBAL EPIDEMIC. JAMA.

VIEWPOINT

Supporting the Health Care Workforce During the COVID-19 Global Epidemic

James G. Adams, MD
Northwestern
Memorial HealthCare,
Chicago, Illinois; and
Northwestern
University Feinberg
School of Medicine,
Department of
Emergency Medicine,
Chicago, Illinois.

Ron M. Walls, MD
Brigham and Women's
Hospital, Boston,
Massachusetts; and
Harvard Medical
School, Boston,
Massachusetts.

 Viewpoint

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continues to spread internationally. Worldwide, more than 100 000 cases of coronavirus disease 2019 (COVID-19, the disease caused by SARS-CoV-2) and more than 3500 deaths have been reported. COVID-19 is thought to have higher mortality than seasonal influenza, even as wide variation is reported. While the World Health Organization (WHO) estimates global mortality at 3.4%, South Korea has noted mortality of about 0.6%.¹⁻³

Vaccine development and research into medical treatment for COVID-19 are under way, but are many months away. Meanwhile, the pressure on the global health care workforce continues to intensify. This pressure takes 2 forms. The first is the potentially overwhelming burden of illnesses that stresses health system capacity and the second is the adverse effects on health care workers, including the risk of infection.

In China, an estimated 3000 health care workers have been infected and at least 22 have died. Transmission to family members is widely reported. Despite recognition that transmission occurs mostly via symptomatic individuals, there are reports of asymptomatic individuals who transmitted the disease to multiple family members.⁴ These reports underscore the need for prevention of cross-infection. Evidence related to transmissibility and mortality inform the clinical community of the importance of vigilance, preparation, active management, and protection.

Adherence to the Centers for Disease Control and Prevention's (CDC) recommended guidelines advances safety.⁵ SARS-CoV-2 is spread by droplet and contact. It is not principally an airborne virus. Therefore, ensuring routine droplet barrier precautions, environmental hygiene, and overall sound infection prevention practice is indicated. To ensure minimal risk of infection when treating patients with COVID-19, the CDC recommends the use of personal protective equipment including a gown, gloves, and either an N95 respirator plus a face shield/goggles or a powered, air-purifying respirator (PAPR). However, airborne precautions are not used in daily, routine care of patients with general respiratory illness.

The widespread use of recommended barrier precautions (such as masks, gloves, gowns, and eye wear) in the care of all patients with respiratory symptoms must be of highest priority. In emergency departments, outpatient offices, homes, and other settings, there will be undiagnosed but infected patients, many with clinically mild cases or atypical presentations. There is limited availability of N95 masks, respiratory isolation rooms, and PAPR, particularly in outpatient offices, to feasibly evaluate every patient with respiratory illness and such measures are not routinely necessary.

Protection is achievable even without N95 masks or PAPR. In a study of outpatient health care personnel in diverse ambulatory practices, medical masks applied to both patient and caregiver provided effectively similar protection as N95 masks in the incidence of laboratory-confirmed influenza among caregivers who were routinely exposed to patients with respiratory viruses.⁶ Adherence to CDC evidence-based guidelines for masks, hand hygiene, and environmental hygiene enhances the safety for health care workers.

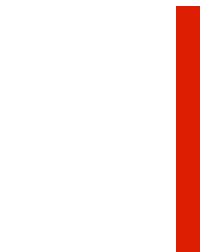
Many additional questions and concerns remain, especially in high-risk sites and clinical settings. One problem is in the emergency department, where crowding is identified as a major concern. Rigor in the use of recommended precautions for all patients with respiratory illness is especially important. Placing a facemask on the patient at arrival, supplying tissues, promoting cough etiquette, and providing for hand hygiene and surface decontamination are all important steps. Those patients with symptoms of suspected COVID-19 should be rapidly triaged and separated from the general population ideally in a well-ventilated space with a distance of at least 6 feet from others until they can be placed in an isolation room. Caregivers who encounter any patient with respiratory illness should wear a mask and gloves, with goggles as recommended. Even when COVID-19 is not suspected, it may be present so routine use of these precautions and increased environmental and personal hygiene is advised. Strict adherence to guidelines is of elevated importance for the protection of health care workers. A focus on worker protection through specific training and encouragement of adherence to barrier precautions and hygiene recommendations may help provide a priority focus. Telling caregivers to focus on their safety and being clear and specific about how to do so can promote calm during an epidemic.

In addition to recommended masks for patients and other barrier precautions, enhanced hand hygiene and surface decontamination are key to safety. The coronavirus is known to live on surfaces for hours or days,⁷ but it is also effectively killed by available disinfectants when properly used. Masks, goggles, gloves, and other barrier precautions will fail to protect caregivers who later encounter contaminated surfaces and fail to wash their hands. Health care personnel must focus on meticulous hand hygiene, avoiding contaminating workspaces. Clinical staff should clean workspaces and personal items such as stethoscopes, mobile phones, keyboards, dictation devices, landlines, nametags, and other items with hospital-provided disinfectants or alcohol-based disinfectants.⁸ It is sensible for environmental services workers to increase the frequency of

Corresponding Author: James G. Adams, MD, Northwestern University 211 E Ontario St, Ste 200, Chicago, IL 60611 (jadams@nm.org).

FLATTEN THE CURVE

“ Musculoskeletal disorders are the most common class of complaints among patients presenting for care in EDs.



GAIESKI, ET AL. (2008). LOW-SEVERITY MUSCULOSKELETAL COMPLAINTS EVALUATED IN THE EMERGENCY DEPARTMENT. CLINICAL ORTHOPAEDICS AND RELATED RESEARCH

Low-severity Musculoskeletal Complaints Evaluated in the Emergency Department

David F. Gaieski MD, Samir Mehta MD,
Judd E. Hollander MD, Frances Shofer PhD,
Joseph Bernstein MD, MS

Received: 21 September 2007 / Accepted: 15 April 2008 / Published online: 22 May 2008
© The Association of Bone and Joint Surgeons 2008

Abstract Patients with musculoskeletal disorders represent a considerable percentage of emergency department volume. Although patients with acute or high-severity conditions are encouraged to seek care in the emergency department, patients with nonacute, low-severity conditions may be better served elsewhere. This study prospectively assessed patients presenting to the emergency department with nonacute, low-severity musculoskeletal conditions to test the hypothesis that these patients have access to care outside the emergency department. One thousand ten adult patients with a musculoskeletal complaint were identified, and a detailed questionnaire was completed by 862 (85.3%) during their emergency department stay. Three hundred fifty (40.6%) patients presented with nonacute, low-severity conditions. Patients with nonacute, low-severity problems

were less likely to have a primary care physician (62.5% versus 72.3%) or to have medical insurance (82.5% versus 87.7%), but a majority had both (59.3%). Only 14.3% had neither. Forty-four percent of all patients with primary care physicians believed their primary care physician was incapable of managing musculoskeletal problems. Appropriate use of the emergency department by patients with musculoskeletal disorders may require not only increased access to insurance and primary care, but also improved public understanding of the scope of care offered by primary care physicians and the conflicting demands placed on emergency department providers. **Level of Evidence:** Level I, prognostic study. See the Guidelines for Authors for a complete description of levels of evidence.

Introduction

Questions of emergency department (ED) overcrowding have waxed and waned in perceived importance for more than a decade [10, 11], but renewed focus has ensued since the Institute of Medicine released its 2006 report, “Hospital-Based Emergency Care: At the Breaking Point,” which cited ED overcrowding as a core problem [16]. Emergency department overcrowding is a multifactorial problem and includes patient-level (aging population, increasing disease complexity), hospital-level (capacity, patient flow, ratio of ED to inpatient beds), and systems-level (lack of health insurance, access to primary care physicians [PCPs]) components. Proposed solutions to ED overcrowding are directed at each of these components and include increased access to PCPs [24], universal health insurance, and triage of patients with low-severity conditions from the ED to alternative primary care settings

Each author certifies that he or she has no commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article.
Each author certifies that his or her institution has approved the human protocol for this investigation, that all investigations were conducted in conformity with ethical principles of research, and that informed consent was obtained.

D. F. Gaieski (✉), J. E. Hollander, F. Shofer
Department of Emergency Medicine, University of Pennsylvania
School of Medicine, 34th and Spruce Streets, Ground Ravdin,
Philadelphia, PA 19104, USA
e-mail: gaieskid@uphs.upenn.edu

S. Mehta, J. Bernstein
Orthopaedic Surgery, University of Pennsylvania, Philadelphia,
PA, USA

J. Bernstein
Department of Orthopaedic Surgery, Veterans Hospital,
Philadelphia, PA, USA

“Musculoskeletal disorders represent more than 25% of all ED visits.

MATIFAT. (2019). BENEFITS OF MUSCULOSKELETAL PHYSICAL THERAPY IN EMERGENCY DEPARTMENTS: A SYSTEMATIC REVIEW. PHYSICAL THERAPY.

Review

E. Matifat, PT, MSc, Maisonneuve-Rosemont Hospital Research Center, University of Montréal Affiliated Research Center, Montréal, Québec, Canada.

M. Méquignon, PT, MSc, Maisonneuve-Rosemont Hospital Research Center, University of Montréal Affiliated Research Center; and Kinesithérapie, Université de Picardie Jules Verne, Amiens, France.

C. Cunningham, PT, PhD, School of Public Health, Physiotherapy and Sports Science, Health Sciences Center, University College Dublin, Belfield, Dublin, Ireland.

C. Blake, PT, PhD, School of Public Health, Physiotherapy and Sports Science, Health Sciences Center, University College Dublin.

O. Fennelly, PT, PhD, School of Public Health, Physiotherapy and Sports Science, Health Sciences Center, University College Dublin.

F. Desmeules, PT, PhD, Maisonneuve-Rosemont Hospital Research Center, University of Montréal Affiliated Research Center, 5415 Boul. L'Assomption, Porte 4163 Pav. Rachel Tourigny, Montréal, Quebec, Canada H1T 2M4; and School of Rehabilitation, Faculty of Medicine, University of Montréal, Montréal, Québec, Canada. Address all correspondence to Dr Desmeules at: f.desmeules@umontreal.ca.

[Matifat E, Méquignon M, Cunningham C, Blake C, Fennelly O, Desmeules F. Benefits of musculoskeletal physical therapy in emergency departments: a systematic review. *Phys Ther*. 2019;99:1150–1166.]

© 2019 American Physical Therapy Association

Accepted: February 21, 2019

Submitted: April 13, 2018

Benefits of Musculoskeletal Physical Therapy in Emergency Departments: A Systematic Review

Eveline Matifat, Marianne Méquignon, Caitriona Cunningham, Catherine Blake, Oma Fennelly, François Desmeules

Background. Over the past few decades, physical therapists have emerged as key health care providers in emergency departments (EDs), especially for patients with musculoskeletal disorders (MSKD).

Purpose. The purpose of this review was to update the current evidence regarding physical therapist care for patients with MSKD in EDs and to update current recommendations for these models of care.

Data Sources. Systematic searches were conducted in 5 bibliographic databases.

Study Selection. The studies selected presented quantitative data related to the care of patients with MSKD by physical therapists in an ED setting.

Data Extraction. Raters reviewed studies and used the Effective Public Health Practice Project Quality Assessment Tool to assess their methodological quality.

Data Synthesis. Fifteen studies were included. Two studies, 1 of weak and 1 of strong quality, demonstrated that physical therapist care in EDs was as effective as or more effective than usual medical care for pain reduction, and 6 studies of varying quality reported that physical therapist care in EDs was as effective as usual care in reducing disability. Eight studies of varying quality reported that physical therapist care could significantly reduce waiting time in EDs. Four studies of varying quality reported that physical therapists ordered no more, or even fewer, medical images than physicians. In terms of health care costs, 2 studies of moderate to high quality found no significant differences in costs between physical therapist care and usual care in EDs. Finally, 6 studies of varying quality reported that patients were as satisfied or more satisfied with physical therapist care as with usual medical care in EDs.

Limitations. The roles of physical therapists in EDs vary depending on the setting, legislation, and training of providers. Only a limited number of high-quality studies were identified.

Conclusions. Although the quality of the evidence is heterogeneous, physical therapist care for patients with MSKD in EDs may be beneficial.

Emergency Department Visits

139 million

11.21 million

- Diseases of the musculoskeletal system and connective tissue
- M00-M99

Emergency Department Visits

11.21 million

40.6%

**Non acute, low severity MSK
complaints**



LOW SEVERITY MSK ED VISITS

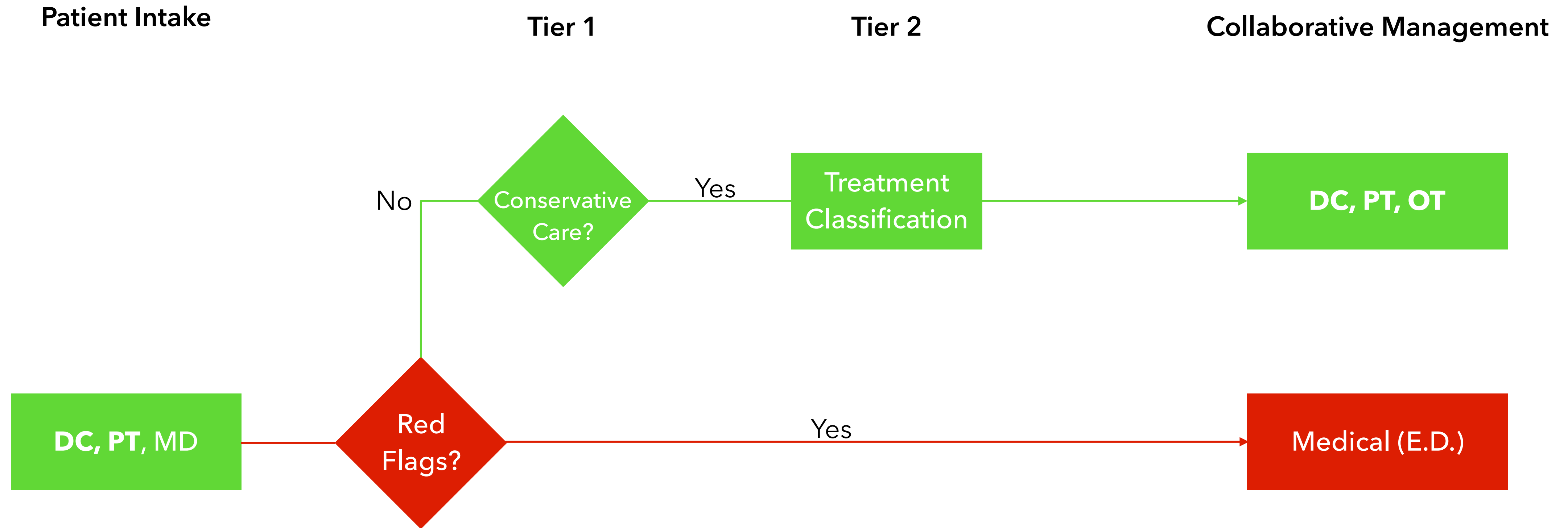
4.5 million



“ Due to the **overwhelming burden of [MSK conditions]** upon the health care system, the establishment of a ‘primary spine care provider’ may be a worthwhile niche position to create for society’s needs.

“**Chiropractors** are ideally suited to fill this role.

Spine Care Pathway





CHIROPRACTORS AS MSK TRIAGE

Core Benefits

FLATTEN THE CURVE

De-burden Hospitals

- Reduce low-severity MSK visits to ED/Urgent Care



FLATTEN THE CURVE

Decrease Exposure






CHIROPRACTORS AS MSK TRIAGE

Other Benefits



“ **Early access to physical medicine services is associated with reductions in imaging, spinal injections, and surgeries.**

“ Episodes of care initiated with a DC were **20% less expensive** than episodes initiated with an MD.



LILIEDAHL. COST OF CARE FOR COMMON BACK PAIN
CONDITIONS INITIATED WITH CHIROPRACTIC DOCTOR VS.
MEDICAL DOCTOR/DOCTOR OF OSTEOPATHY AS FIRST
PHYSICIAN EXPERIENCE OF ONE TENNESSEE-BASED
GENERAL HEALTH INSURER.

“ **Initiating care with a [chiropractor] for a new episode of neck pain may decrease opioid exposure and advanced imaging and injections.**



CHIROPRACTORS AS MSK TRIAGE

Common Concerns

Concern

What will patients think?

Reality

95% of patients rated
their care as **excellent.**

Concern

Is alternative care by an Advanced Practice Provider as effective as regular medical care in the ED?

Reality

As effective as or **more effective than usual medical care for pain reduction [and] reducing disability."**

Concern

What about the risk of missing a serious condition?

Reality

The prevalence of serious spinal pathologies requiring immediate or urgent treatment was <7.4%



FLATTEN THE CURVE



NEXT STEPS?



UNCLEAR...



CONSIDERATIONS

Model

- Integrated in hospital system

Reality

- Rapid response, community clinic

CONSIDERATIONS

To treat...

- Decrease MSK burden on healthcare system
- Decrease exposure

Not to treat...

- MSK burden may decrease during pandemics
- Clinic becomes a vector for transmission



What is clear...

Inform Patients

- CDC Recommendations
- WHO Information
- WFC Message



Flatten the Curve

THE ROLE OF CHIROPRACTORS
IN MUSCULOSKELETAL TRIAGE

