

Impact of Same-Day Physical Therapy on Case Length of Musculoskeletal Injuries

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Introduction

Musculoskeletal disorders are a significant cause of workplace injuries, leading to substantial economic and productivity losses

- 502,380 cases in 2021-2022, leading to at least one day away from work¹
- Annual incidence rate of 25.3 per 10,000 full-time equivalent (FTE) workers¹
- \$167 billion in total costs in 2021 (wages, medical expenses, administrative costs)²
- Delays in treating musculoskeletal injuries result in higher costs and longer recovery times

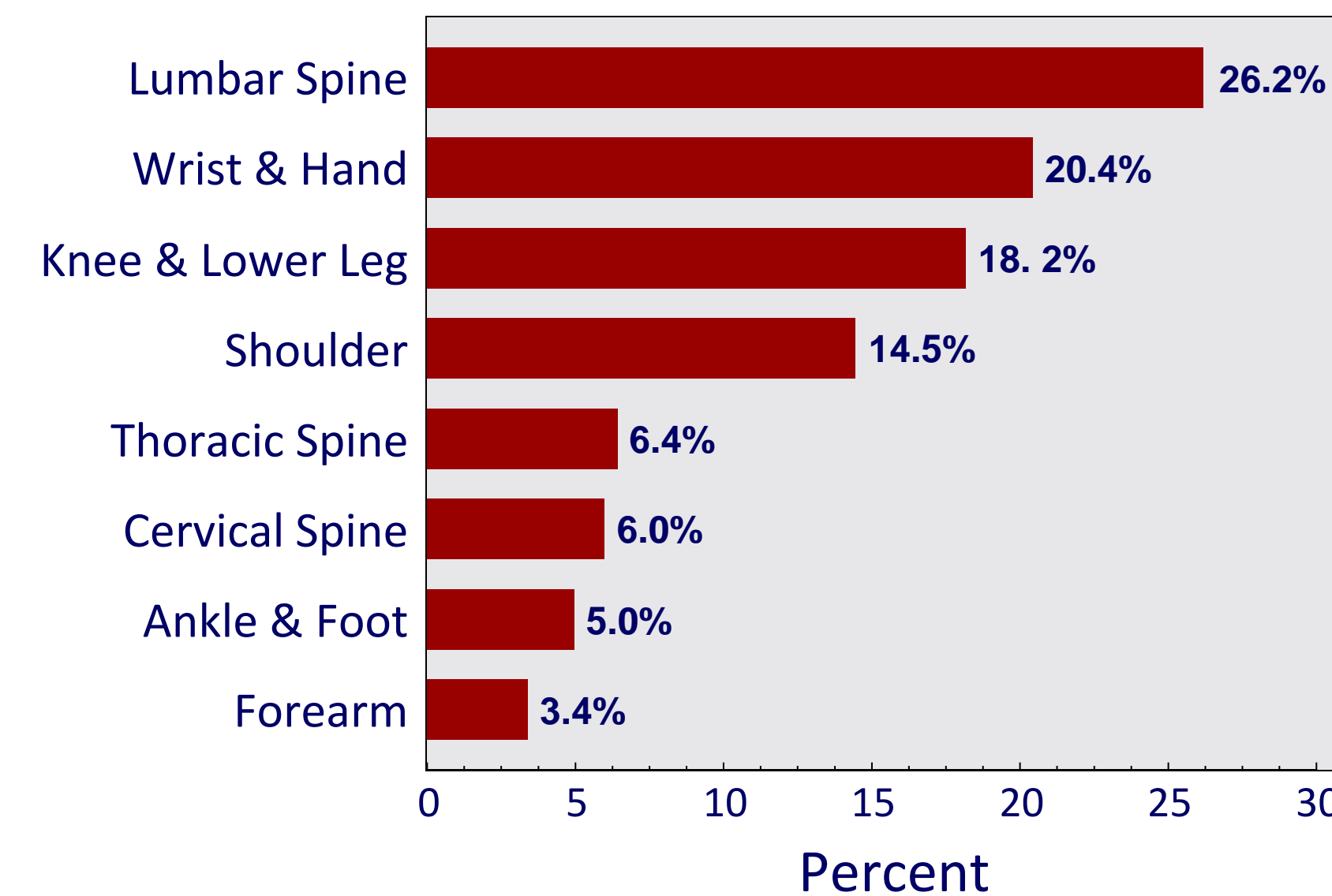
Objective

- To assess the effect of same-day PT on reducing the total case length of musculoskeletal injuries in cases not requiring orthopedic referrals

Study Demographics

	All	Physical Therapy	
		Delayed	Same Day
N	1,772	1,625	147
Age (mean)	40.7	40.6	42.3
Age Range	17-83	17-83	18-69

Injuries by Body Part Affected



Results

Mean Case Length & 95% Confidence Interval (CI)

- **Delayed PT:** 23 days, 95% CI: 22-24
- **Same-Day PT:** 17 days, 95% CI: 15-20
- Same-day PT showed a **statistically significant** reduction in case length adjusted for age and body part affected compared to delayed PT ($p=.0005$)

Cost Effectiveness:

- **Mean decrease** in case length: 6 days
- **Average savings** per patient due to reduced lost workdays: **\$1,110.42** (based on 2024 inflation-adjusted value of \$185.07³ per lost workday)

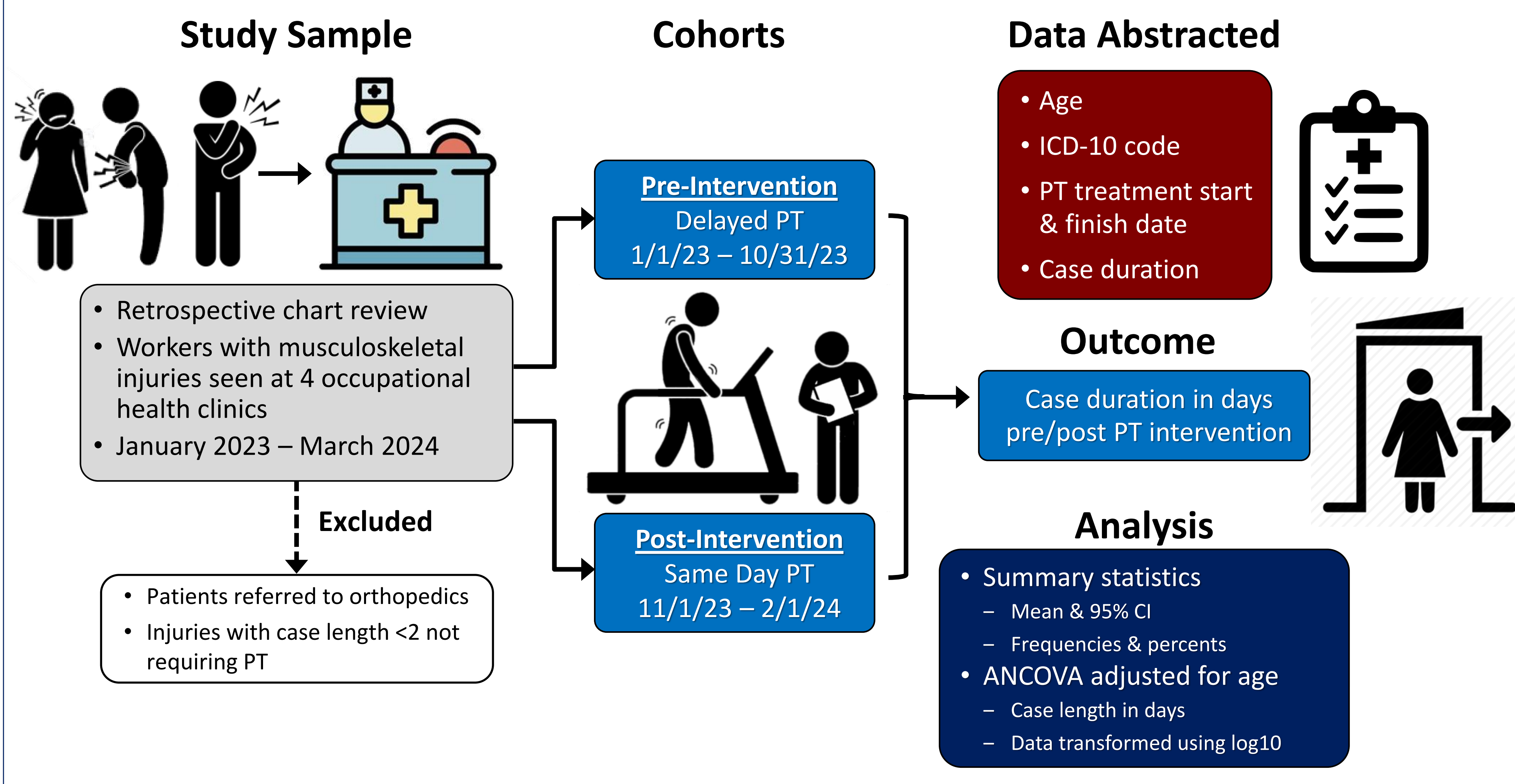
Discussion

- Same-day PT significantly reduced the overall case length for musculoskeletal injuries compared to delayed PT adjusted for age and body part affected
- Average savings may be up to \$1,110.42 (6 lost workdays)
- Significant cost savings can provide an incentive for employers and insurance companies to prioritize early intervention

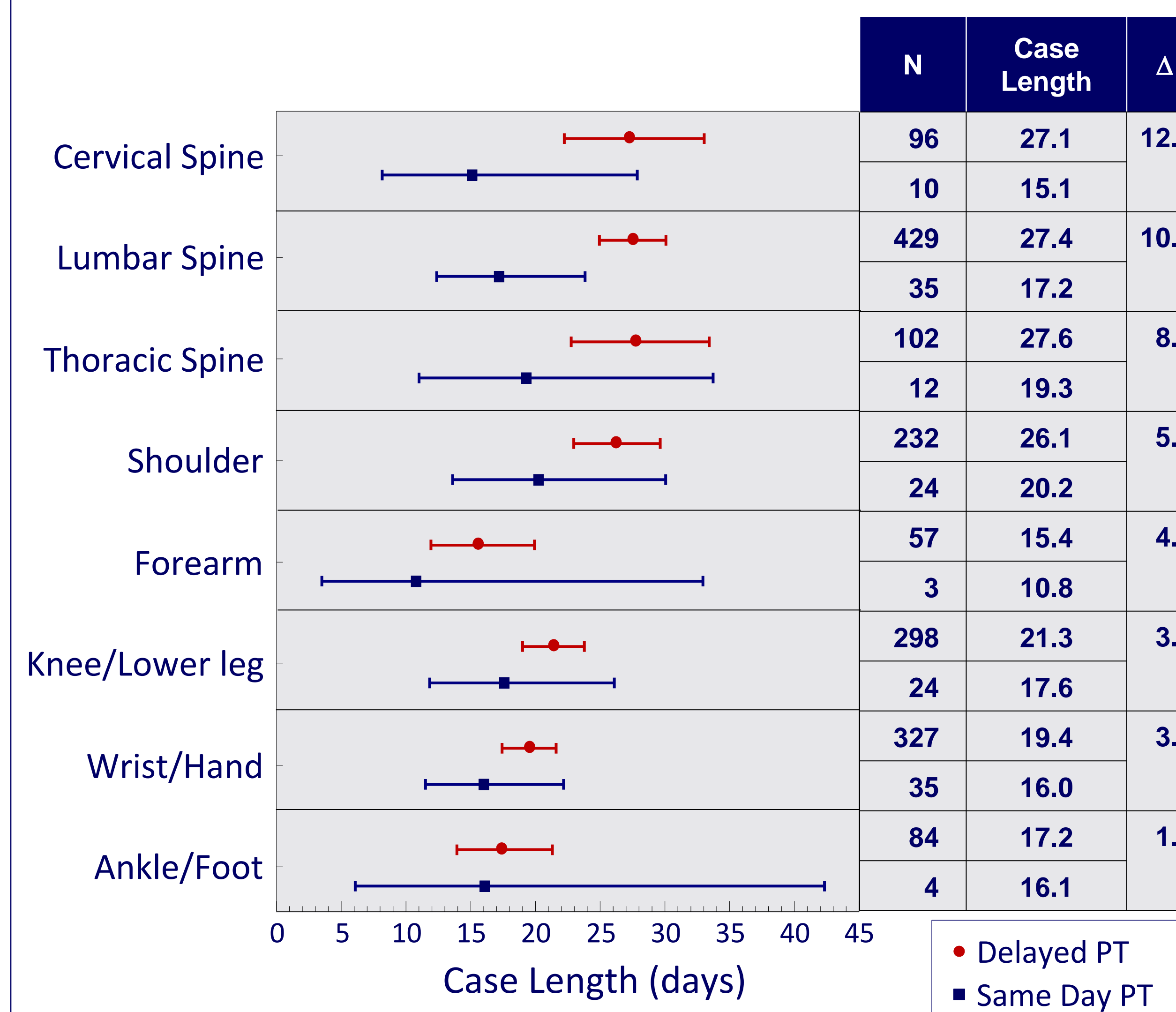
Limitations

- Same-day PT period was short (3 months) and during the holiday season, which resulted in small sample size and possible delay in PT due to holiday
- Before & after study design as opposed to concurrent control group, may have introduced bias toward shorter case length in the same-day PT
 - Individuals may have received same-day PT regardless of immediate clinical need; however, this was mitigated by performing PT for those requiring work restrictions
- The cost of PT may outweigh the reduction in case duration, limiting its practical or financial viability
- Limitations in data consistency and different clinician treatment methods across multiple clinics may have introduced some variability in the results
- However, patients were not selectively chosen but included from all cases; the variability should have been evenly distributed and non-differential

Methods



Case Length by Injured Body Part*



* ANCOVA adjusted for age conducted using log 10 transformation of case length. Values are presented as the anti-log. No statistically significant differences in case length found within body part affected, but over difference between PT type remains significantly different.

Conclusions

- Same-day PT suggests a reduction in the case length for musculoskeletal injuries, with an average decrease of 6 days compared to delayed PT
- Cervical and lumbar spine injuries showed the largest decrease in case length by 12 & 10 days, respectively
- Early integration of physical therapy on musculoskeletal injuries enhances blood flow and tissue healing decreasing pain, aiding faster recovery and quicker return to work
- Larger studies with a concurrent control group, aimed at identifying types of injuries and patients that would benefit both the worker and employer should be considered

References

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3. Peterson, C., Xu, L., & Barnett, S. B. L. (2021). *Average lost work productivity due to non-fatal injuries by type in the USA*. Injury prevention: journal of the International Society for Child and Adolescent Injury Prevention, 27(2), 111–117. <https://doi.org/10.1136/injuryprev-2019-043607>

- The authors would also like to thank Dr. Sajjad Savul and Ms. Jamie Curran at the University of Pennsylvania Occupational and Environmental Medicine Residency Program
- This research was supported in part by a training grant from the National Institute of Occupational Safety and Health – award number: 2T03OH008628-20-00
- The information and views set out in this study are those of the authors and do not necessarily reflect the official opinion of the funding agency