Duke University School of Medicine
Doctor of Physical Therapy

The Impact of Timing of Physical Therapy for Acute Low Back Pain on Health Services Utilization: A Systematic Review

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Background

- **Low back pain (LBP)** is disabling and costly[1]
- **Physical therapy (PT)** for acute LBP has been associated with improved outcomes and reduced future **health services utilization (HSU)**,[2] such as advanced imaging, radiographs, spinal injections, lumbar surgery, medication use, physician visits, emergency or urgent care, and cost
- **Timing of PT** for acute LBP may impact the extent to which resources are utilized

Purpose

- To synthesize literature about the impact of early PT for acute LBP on subsequent HSU, compared to delayed PT or usual care

Methods

- PRISMA guidelines were followed
- Data Sources:
  - Peer-reviewed electronic databases (MEDLINE, CINAHL, and EMBASE) were searched from inception to May 2018
- Inclusion Criteria:
  1) Participants: ≥ 18 years old, LBP within 6 months prior to index date
  2) One group received early access to PT
  3) Comparison groups received delayed PT or usual care
  4) Studies assessed future HSU and cost
- Exclusion Criteria:
  1) Participants had red flag conditions, neurological symptoms, or prior back surgery
  2) Isolated PT intervention or interdisciplinary
  3) Case report, editorial, or qualitative studies

Results

Impact of Early PT vs. Delayed PT on HSU

Study	↓ HSU	= HSU	↑ HSU
Childs, 2015			
Fritz, 2012			
Gellhorn, 2012			
Liu, 2018			
Nordeman, 2006			
Zigenfus, 2000			

Impact of Early PT vs. Usual Care on HSU

Study	↓ HSU	= HSU	↑ HSU
Fritz, 2015			
Fritz, 2017			
Karvelas, 2017			
Rhon, 2018			
Thackeray, 2017			

Symbol Key

	Advanced Imaging (MRI or CT)		Opioid Medication
	Radiographs		Physician Visits
	Spinal Injections		Emergency Department or Urgent Care Visits
	Lumbar Surgery		LBP-related cost

Results

- 11 total studies : 4 RCTs, 1 prospective cohort, and 6 retrospective cohort studies
- Definitions:
  - Early PT: all were within 30 days of index
  - Delayed PT: mixed
  - Usual Care: no PT received
- Early vs. Delayed PT (6 studies):
  - 5 studies: early PT ⬇️ future HSU
  - 1 study: no difference in physician visits
- Early vs. Usual Care (5 studies):
  - 1 study: early PT ⬇️ future opioid prescriptions
  - 3 studies: early PT ⬆️ HSU
  - 1 study: no difference in HSU

Conclusions

- Early PT for acute LBP may be more cost-effective than delayed PT
- Patients with acute LBP who participate in early PT may be part of a care-seeking group that is more active in seeking care compared to patients who receive usual care

Clinical Relevance

- Early PT for acute LBP has the potential to reduce HSU and cost, reduce opioid use, and improve health care efficiency

Acknowledgements / References

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2. Fritz JM, Cleland JA, Speckman M, Brennan GP, Hunter SJ. Physical therapy for acute low back pain: associations with subsequent healthcare costs. Spine (Phila Pa 1976). 2008;33(16):1800-1805.