

Physical Therapy Evaluations in the Emergency Department Can Reduce Costs for Patients Presenting With Dizziness

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Published In/Presented At

Sawyer, D., Boyd, N., & Burris, A. (2021). *Physical therapy evaluations in the emergency department can reduce costs for patients presenting dizziness*. Poster presented at Lehigh Valley Health Network, Allentown, PA.

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Physical Therapy Evaluations in the Emergency Department Can Reduce Costs for Patients Presenting With Dizziness

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Purpose

- Outline the course of care for a patient presenting to the hospital with dizziness.
- Demonstrate the cost effectiveness of vestibular evaluations performed by Physical Therapists (PTs) in the Emergency Department (ED) through PI work

Background

- Vertigo and dizziness account for 5% of ED visits; \$3.9 billion annually.
- Little research on the cost effectiveness of vestibular PT evaluations on patients presenting with dizziness
- Research: imaging studies costly, low yield, ED physicians are poor at evaluating vertigo causing unnecessary imaging during ED visits for this population
- Vestibular certified PTs: have unique ability to help diagnose and treat peripheral causes of dizziness and possess the skill set to recognize central signs; appropriately referring to other disciplines

PI Methods

TIME: 5/2020 – 5/2021

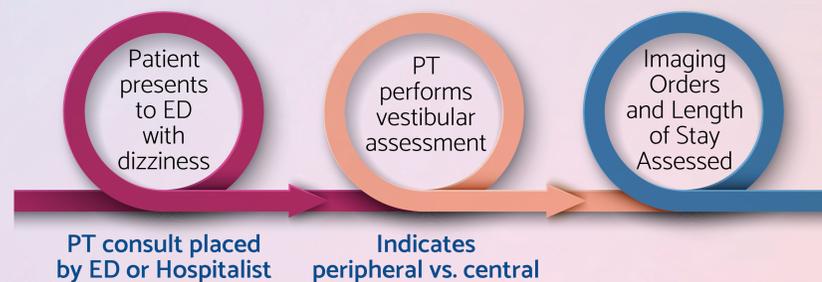
LOCATION: Lehigh Valley Hospital – Cedar Crest

SUBJECTS: 162 patients presenting to the ED with dizziness or vertigo

Intervention: Vestibular PTs performed HINTS examination, positional testing, and neurologic examination

COLLECTION: Imaging orders, length of stay data was collected

**Imaging was deemed “unnecessary” if there were only peripheral findings on PT evaluation, and imaging results were negative for a central lesion.



Case Description

PATIENT: 41 y/o male

PMHx: anxiety, hypertension, hyperlipidemia, recent viral illness

PRESENTATION: Two weeks of intermittent dizziness and nausea

SYMPTOM COURSE: Symptoms slightly improved with Meclizine but worsened and became constant the day prior to ED visit

MEDICAL COURSE:

- **ED:** CT head, Neurology consult followed by MRI brain, CT angiogram head and neck
 - Imaging showed no evidence of infarct, hemorrhage, or stenosis
- **Hospital:** Patient admitted overnight. Physical therapy (PT) consultation was placed the next morning
 - Vestibular examination using video frenzel goggles performed

PI Results

162 TOTAL SUBJECTS

TOTAL PERIPHERAL DIAGNOSES: 62.0% (101/162) –

- 51.4% (52/101) received unnecessary MRI;
- 64.0% (65/101) received unnecessary CT scans.
- 37.6% (38/101) received both unnecessary MRI and CT scan

TOTAL CENTRAL DIAGNOSES: 3.7% (6/162) of patients suffered an acute stroke

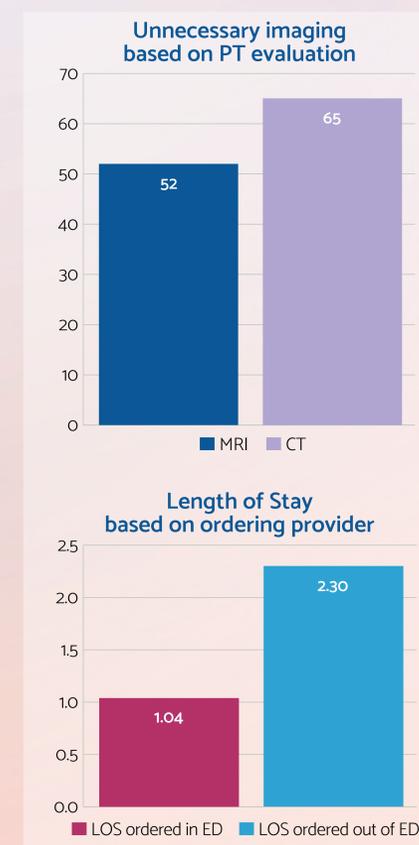
- 100% (6/6) PTs documented central findings on examination

IMAGING:

- PT consulted in ED: 41.2% (21/51) of patients received MRI, and 52.9% (27/51) received CT scan
- PT consulted in hospital: 64.0% (71/111) MRI and 80.2% (89/111) CT scan

LENGTH OF STAY:

- PT evaluation placed in the ED: 1.04 days
- PT evaluation placed in hospital: 2.30 days



Case Outcome: PT Evaluation

NYSTAGMUS: 2nd degree, unidirectional, right beating, mixed horizontal/torsional nystagmus follows Alexander’s law, and increased intensity without fixation

HEAD IMPULSE: positive left

SKEW DEVIATION: None

AUDITORY: No hearing loss, tinnitus, or aural fullness. No other central signs

MOBILITY: Decreased head/neck/trunk dissociation, decreased balance, deviation from straight path during head turns, improved with visual fixation

RESULTS: Acute L vestibular hypofunction. Discussed with the attending; ten-day steroid taper began. Pt significantly improved within 24 hours and discharged with outpatient PT

Importance to Members

1. PTs can prevent unnecessary neuroimaging studies on patients with suspected peripheral vestibular lesions, without risking missed central lesions, which can have a significant impact on health care expenditure
2. Next steps look to implement an electronic database to track provider specific consultations and total cost savings to improve hospital awareness of the value of PT in the ED

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