

# PHYSICAL THERAPY INTERVENTIONS VIA TELEHEALTH FOR A CHILD WITH DEVELOPMENTAL DELAY DURING THE COVID-19 PANDEMIC: A CASE REPORT

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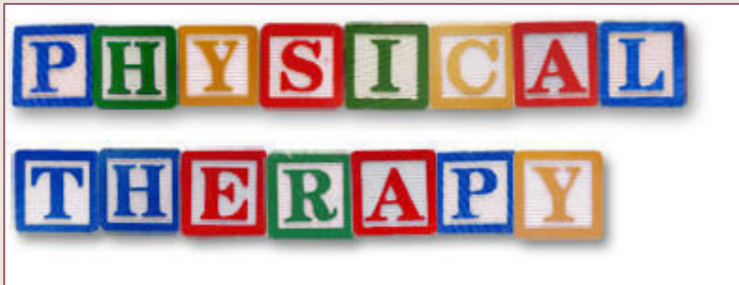


TELEMEDICINE

# Background & Purpose

- Physical therapy (PT) services seek to optimize movement in children with developmental disability or delay.
- The utilization of telehealth became more widely used by clinicians during the Covid-19 pandemic of 2020.
- The purpose of this case report is to discuss the use of PT telehealth services in the pediatric population while describing the PT management of a child with gross motor delays.

# Case Description:



- The patient was a five-year-old male who had been seen for outpatient PT since January 2018 to treat a unilateral strength difference and gross motor delay.
- His services transitioned to a telehealth delivery model during the Covid-19 pandemic in March 2020.
- He had no medical diagnosis, neurodevelopmental referrals, or genetic consults.
- The Peabody Developmental Motor Scale-2 (PDMS-2) was used as an outcome measure.

# History

January  
2018

- Evaluated for outpatient PT services due to concerns regarding unilateral left sided weakness.
- PDMS-2: Pt scored in the 5th percentile for locomotion and 37th percentile for stationary

September  
2018

- Concerns for continued developmental delay
- PDMS-2: Pt scored in the 16th percentile for locomotion and 25th percentile for stationary
- Services reduced to three times a month

October  
2019

- PDMS-2: Pt scored in the 9th percentile for locomotion and 16th percentile for stationary
- The patient's scores reflected impairments in age-appropriate single limb balance, jumping skills, and functional mobility.

## GROWTH THROUGH PLAY



# Interventions & POC:

- Interventions provided enhanced motor ability, incorporated play, and required only the equipment and space available at the patient's home.
- Interventions included: warm-up, body weight (BW) strengthening exercises, balance training, and coordination tasks.

# Interventions

- Engaging “animal walks”, as a form of body weight resistance, were used for lower extremity and abdominal strengthening.
- Yoga was utilized to improve postural control, motor planning, balance, and strength.
- Task-oriented therapeutic exercises were used for balance training to improve core trunk muscle recruitment patterns and anticipatory postural control.



# Outcomes

No detectable change.  
Noted unresolved  
limitations in balance.

- Score increase above MCID.

- Jumping distance, single limb hopping ability, and coordination improved.

	Raw Score		Percentile Ranking: (%)		Standard Score		Age Equivalent: (months)		Rating	
	Oct.	July	Oct.	July	Oct.	July	Oct.	July	Oct.	July
	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020
Stationary	47	47	16	9	7	6	43	43	Below avg.	Below avg.
Locomotion	146	157	9	9	6	6	40	48	Below avg.	Below avg.

# Outcomes

Decreased percentile ranking due to increased expectations as he ages.


Known feature of the PDMS-2 and did not insinuate a lack of progress


	Raw Score		Percentile Ranking: (%)		Standard Score		Age Equivalent: (months)		Rating	
	Oct. 2019	July 2020	Oct. 2019	July 2020	Oct. 2019	July 2020	Oct. 2019	July 2020	Oct. 2019	July 2020
<b>Stationary</b>	47	47	16	9	7	6	43	43	Below avg.	Below avg.
<b>Locomotion</b>	146	157	9	9	6	6	40	48	Below avg.	Below avg.



# Outcomes

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- Completion of nine telehealth visits

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- Improvements in PDMS-2 locomotion section.
  - Clinical observations indicated the patient made progress in activity tolerance and endurance.
  - Family reported noted progress

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- Further in-person visits planned
  - Plan of care to continue with 3 sessions per month

# Discussion

- Telehealth visits began following the initial administration of the PDMS-2 in October 2019, and it is not clear if telehealth alone can be attributed to the gains made.
- Telehealth provided a unique opportunity for the patient to practice skill acquisition in a meaningful and natural learning environment.
- The author found constraints of telehealth to be the inability to use hands on techniques for therapeutic benefit and a diminished variety of applicable exercises.

# Future Directions



A limitation is this case study was that literature on developmental delay disorders was often extrapolated to the patient since he did not have a medical diagnosis



Future research is warranted to determine the effectiveness of telehealth in the pediatric PT setting and to explore the PT management of children with developmental delays to inform evidence-based practice.

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