PHYSICAL THERAPY EVALUATION THROUGH THE TELEHEALTH PLATFORM

Betsy Cyr, PT, DPT, DHSc(c) Board Certified Clinical Specialist, Pediatric Physical Therapist

CONSIDERATIONS FOR USING TELEHEALTH FOR PT EVALUATIONS



EVIDENCE ON FEASIBILITY



Demonstrated feasibility for technical, economic, time, and human (therapist and patient) factors.

- Interview Based Assessments, Questionnaires, and Self-reported Measures^{1,2}
- Functional & Exercise Capacity Assessments^{3,4,5}
- Developmental Assessments^{6,7,8}
- Specific Musculoskeletal Measures and Assessment Protocols⁹

EVIDENCE ON CONCURRENT VALIDITY

Moderate to good diagnostic accuracy and percent agreement of in person to telehealth assessment using:

- Functional Assessments¹⁰
- Exercise Capacity Testing³
- Developmental Assessments^{7,8,11}
- Specific Musculoskeletal Measures^{9,12,13,14,15}

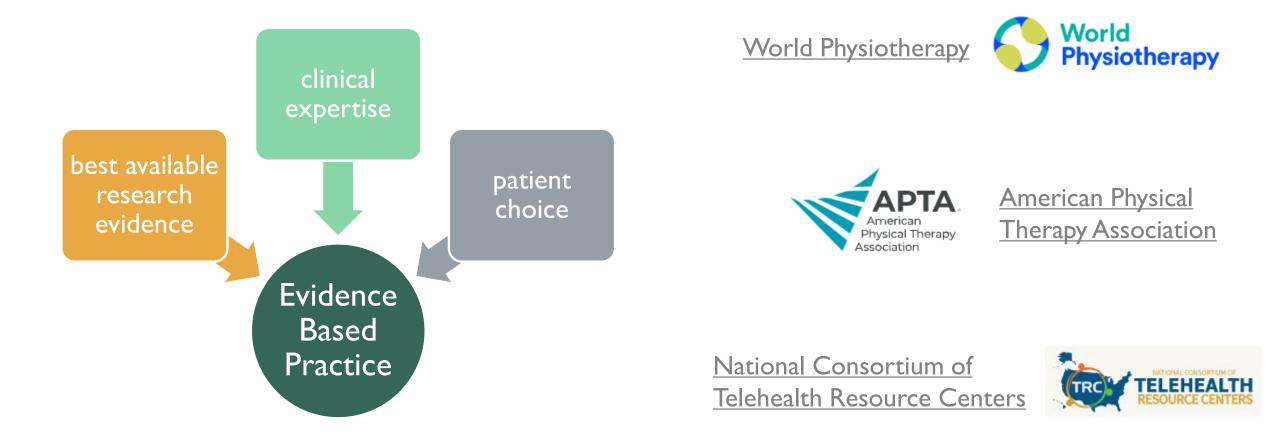
EVIDENCE ON RELIABILITY

Good to excellent inter and intra-rater reliability of in person to telehealth assessment using:

- Functional & Exercise Capacity Assessments^{3,11,16}
- Developmental Assessments^{10,17}
- Cervical Spine, Upper Limb, and Lower Limb Musculoskeletal Impairment Tests^{9,13,14,15}

Moderate inter-rater reliability for low back musculoskeletal impairment tests, and nerve tension tests.^{12,13}

APPLYING BEST PRACTICE



INTERNATIONAL CORE CAPABILITY FRAMEWORK¹⁸



- Safety Assessment
- eHelper
- Environmental Set-up
- Technology Set-up
- Patient Instructions
- HD Audio-Video Feed
- Recognize Limitations

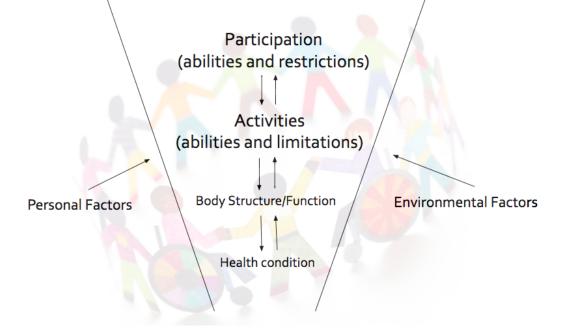
ADDITIONAL CONSIDERATIONS

- What is the goal of the evaluation?
- Preparation & Technology Test Session
 - Safety Screening Measures
 - Technology Set-up
 - Environmental Set-up
- Therapist Competency & Administrative Support
 - Trainings
 - Resource Allocation

ADDITIONAL CONSIDERATIONS CONTINUED

- Application of Assistive Technology
- Cultural Considerations
- Collection of Data Across the Domains of the International Classification of Functioning, Disability & Health (ICF)

Client Centered Goals



THANK YOU!

REFERENCES

[1] Kronberg, J., Tierney, E., Wallisch, A., & Little, L. M. (2021). Early Intervention Service Delivery via Telehealth During COVID-19:A Research-Practice Partnership. *International Journal of Telerehabilitation*, 13(1), e6363–e6363. <u>https://doi.org/10.5195/ijt.2021.6363</u>

[2] Tanner LR, Grinde K, McCormick C. The Canadian Occupational Performance Measure: A feasible multidisciplinary outcome measure for pediatric telerehabilitation. Int J Telerehabilitation. 2021; 13(1): 1-10

[3] Hwang R, Mandrusiak A, Morris NR, Peters R, Korczyk D, Russell T. Assessing functional exercise capacity using telehealth: Is it valid and reliable in patients with chronic heart failure? *Journal of telemedicine and telecare*. 2017;23:225.

[4] Narelle S Cox, Jennifer A Alison, Brenda M Button, John W Wilson and Anne E Holland. Respiratory Care February 2013, 58 (2) 286-290; DOI: https://doi.org/10.4187/respcare.01922

[5] Wilroy J, Lai B, Currie M, et al. Teleassessments for Enrollment of Adults With Physical or Mobility Disability in a Home-Based Exercise Trial in Response to COVID-19: Usability Study. *JMIR Form Res.* 2021;5(11):e29799. Published 2021 Nov 18. doi:10.2196/29799

[6] Boonzaaijer, M., Van Wesel, F., Nuysink, J., Volman, M. J. M., & Jongmans, M. J. (2019). A home-video method to assess infant gross motor development: Parent perspectives on feasibility. *BMC Pediatrics, 19*(1), 392-392. <u>https://doi.org/10.1186/s12887-019-1779-x</u>

[7] Nicola K, Waugh J, Charles E, Russell T. The feasibility and concurrent validity of performing the Movement Assessment Battery for Children – 2nd Edition via telerehabilitation technology. *Research in developmental disabilities*. 2018;77:40-48.

[8] Maitre, N. L., Benninger, K.L., Neel, M.L., Haase, J.A., Pietruszewski, L., Levengood, K., Adderley, K., Batterson, N., Hague, K., Lightfoot, M., Weiss, S., Lewandowski, D. J., Larson, H. Standardized neurodevelopmental surveillance of high-risk infants using telehealth: Implementation study during COVID-19. (2021). *Pediatric Quality & Safety, 6*(4), e439-e439. https://doi.org/10.1097/pq9.0000000000000439

[9] Russell T, Truter P, Blumke R, Richardson B. The diagnostic accuracy of telerehabilitation for nonarticular lower-limb musculoskeletal disorders. *Telemedicine journal and e-health*. 2010;16:585-594.

REFERENCES

[10] Boonzaaijer, M., van Dam, E., van Haastert, I. C., & Nuysink, J. (2017). Concurrent validity between live and home video observations using the alberta infant motor scale. *Pediatric Physical Therapy*, 29(2), 146-151. <u>https://doi.org/10.1097/PEP.00000000000363</u>

[11] Boledi K. Maleka, Jeannie Van Der Linde, Frances Page Glascoe, and De Wet Swanepoel. Telemedicine and e-Health. Dec 2016.1013-1018. http://doi.org/10.1089/tmj.2016.0007

[12] Boisvert-Plante V, Noutsios CD, Perez J, Ingelmo P. The Telemedicine-Based Pediatric Examination of the Neck and Upper Limbs: A Narrative Review. *Journal of pain research*. 2021;14:3173-3192.

[13] Peterson S, Kuntz C, Roush J. Use of a modified treatment-based classification system for subgrouping patients with low back pain: Agreement between telerehabilitation and face-to-face assessments. *Physiotherapy theory and practice*. 2019;35:1078-1086.

[14] Truter P, Russell T, Fary R. The validity of physical therapy assessment of low back pain via telerehabilitation in a clinical setting. *Telemedicine journal and* e-health. 2014;20:161.

[15] Cottrell MA, O'Leary SP, Swete-Kelly P, et al. Agreement between telehealth and in-person assessment of patients with chronic musculoskeletal conditions presenting to an advanced-practice physiotherapy screening clinic. *Musculoskeletal science* & practice. 2018;38:99-105.

[16] Venkataraman, K., Morgan, M., Amis, K.A., Landerman, L. R., Koh, G. C., Caves, K., & Hoenig, H. (2017). Tele-assessment of the berg balance scale: Effects of transmission characteristics. Archives of Physical Medicine and Rehabilitation, 98(4), 659-664.e1. https://doi.org/10.1016/j.apmr.2016.10.019

REFERENCES

[17] Gavazzi, F., Adang, L., Waldman, A., Jan, A. K., Liu, G., Lorch, S.A., DeMauro, S. B., Shults, J., Pierce, S. R., Ballance, E., Kornafel, T., Harrington, A., Glanzman, A. M., & Vanderver, A. (2021). Reliability of the telemedicine application of the gross motor function measure-88 in patients with leukodystrophy. *Pediatric Neurology*, *125*, 34-39. <u>https://doi.org/10.1016/j.pediatrneurol.2021.09.012</u>

[18] Davies, L., Hinman, R. S., Russell, T., Lawford, B., Bennell, K., Billings, M., Cooper-Oguz, C., Finnan, K., Gallagher, S., Gilbertson, D. K., Holdsworth, L., Holland, A., McAlister, J., Miles, D., Roots, R., & International Videoconferencing Steering Group. (2021). An international core capability framework for physiotherapists to deliver quality care via videoconferencing: A delphi study. *Journal of Physiotherapy*, 67(4), 291-297. https://doi.org/10.1016/j.jphys.2021.09.001