March 14th, 2022

STROKE SPECIAL INTEREST GROUP

Academy of Neurologic Physical Therapy

In this newsletter...

- Stroke Corner Article Review: Development & Results of an Implementation Plan for HIGT
- ANPT Annual Conference Submissions Open
- **ONE MORE WEEK** to run for Stroke SIG Office: Nominations due **March 21, 2022**

Stroke Corner: Development & Results of an Implementation Plan for HIGT Article Review

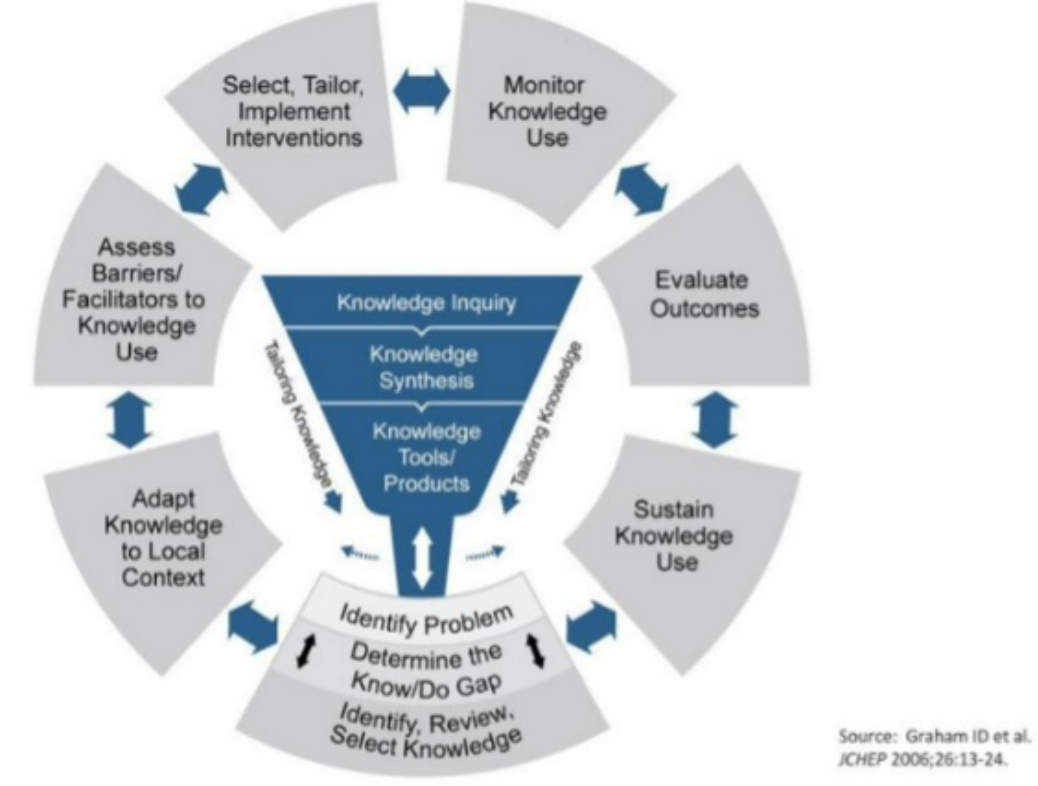
Thank you to Daniel Dray, DPT, NCS for reviewing this week's article

Article reference: Moore JL, Bø E, Erichsen A, Rosseland I, Halvorsen J, Bratlie H, Hornby TG, Nordvik JE. Development and Results of an Implementation Plan for High-Intensity Gait Training. J Neurol Phys Ther. 2021 Oct 1;45(4):282-291. doi: 10.1097/NPT.0000000000000364.

Link to full article: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8423140/

Definitions: Knowledge Translation (KT): The application of what we have learned through high quality research to our practice. This is completed via *widespread adoption* by stakeholders such as researchers, practitioners, healthcare systems, and policymakers.

Knowledge to Action (KTA) framework: A conceptualization of KT strategy commonly used in the field of rehabilitation. This framework includes 2 components. The Knowledge Creation Funnel (center) includes efforts by researchers to tailor primary and synthesized research to a consumer-friendly knowledge tool (ex. Clinical Practice Guideline). The Action Cycle (outer circle) includes 7 phases for stakeholders to implement knowledge into clinical practice.



High Intensity Gait Training (HIT): An intervention strategy to improve walking function based on the principles of neuroplasticity. Sessions prioritize repetitive, task specific walking at high aerobic intensities (70-85% HRmax/ 60-80% HR Reserve/ RPE > 14) with zones targeted for as much time as possible per session. Variability is provided by walking in different directions, over obstacles or on uneven/ compliant surfaces. Training is completed on a treadmill, overground, and/or on stairs.

Purpose of article: A previous study by the authors investigated the implementation of HIT post-stroke in inpatient rehab. They found that HIT resulted in significantly better walking and balance outcomes when compared to usual care. This article describes the HIT implementation plan used in that study, guided by the KTA Framework. Methods and results of each phase of the action cycle are presented, as well as the project's impact on clinicians, the health system, and patients.

Phase 1: Identify the Problem, Assess Know-Do Gap, and Select Knowledge
Method: To determine the gap between knowledge and practice, subjective measures such as surveys and discussions were initiated. Objective measures such as patients' steps per session and outcome measures were also collected.
Result: Clinicians reported delivering task-specific walking training as well as several other interventions (pre-gait, strengthening, balance activities in sitting/standing) regardless of the assistance required to walk. The surveys indicated clinician openness to HIT and readiness to change.

Phase 2: Adapt to the Local Context
Method: The team identified how closely they could replicate the HIT protocol used in research studies and what changes would need to be made for it to be successful in their clinic.
Result: Inclusion and exclusion criteria for patients were adjusted as necessary. Intervention protocol was adapted based on factors such as available equipment and unit dynamics.

Phase 3: Assess Barriers and Facilitators
Method: Barriers and facilitators were collected from stakeholders in surveys and interviews. This phase was revisited later if adherence to the protocol was less than desired.
Result: Commonly reported barriers were clinician's knowledge of research, availability of resources, and culture of usual care. Interdisciplinary barriers included concerns over

rearranging the schedule and that the patient may be too tired to participate in other therapies.

Phase 4: Select, Tailor, and Implement KT Interventions
Method: Barriers were prioritized, and KT interventions were selected to target the highest priority barriers. Details of the KT interventions were codeveloped by the team.
Result: KT interventions included educational interventions, accessing funding, changing physical structure and equipment, promoting compliance of HIT, and conducting local discussions.

Phase 5: Monitor Knowledge Use
Method: Adherence to the protocol was monitored during weekly group meetings. Number of patient steps per session was audited, and feedback was provided to clinicians. Clinicians also completed a current-practice survey 9 months after implementation.
Result: Subjectively, 89% of the clinicians prioritized HIT and improved skills in delivering HIT. 100% of clinicians reported a better understanding of prognosis and decision-making related to HIT. Objectively, patients' steps per session and HR monitoring indicated compliance with HIT recommendations.

Phase 6: Evaluate Outcomes
Method: Patient's functional outcomes post-implementation were assessed.Surveys were also conducted to investigate clinician perspectives, patient perceptions as and the organizational impact of HIT.
Result: Objective results included improved patient outcomes and a significant decrease in the number of prescribed interventions that were not task specific. Subjective results included improved therapist confidence and knowledge, improved team cooperation, and improved continuum of care. Patient surveys indicated that they were satisfied with the intervention.

Phase 7: Sustain Knowledge Use
Method: A sustainability plan was developed consisting of weekly discussions and monthly professional meetings. Clinicians also revised the site's stroke treatment guideline to include HIT and created a HIT training plan for new employees. Surveys were re-administered 2 years after project completion.
Result: The follow-up survey identified no significant changes on almost all questions, indicating knowledge use was sustained.

Discussion: In this project, the team successfully developed an implementation plan for HIT guided by the KTA Framework. A few factors that may have substantially contributed to the project's successful outcome include the clinicians and organizational readiness to change, stakeholder engagement, and clinician leadership support. Co-developing the plan with stakeholders may have also achieved further stakeholder buy-in. The content of pre-implementation "usual care" in these facilities may also have led to a more rapid adoption of HIT. Clinicians in this study were not heavily invested in more traditional treatment paradigms such as NDT or PNF, which may have been more challenging to de-implement.

Take Home Message: Using the KTA cycle, this team developed a successful implementation plan to translate HIT into subacute stroke rehab. As a result, they observed positive clinician, patient, and health system outcomes. It may be beneficial for organizations and clinicians to consider such a multicomponent approach when implementing HIT.

Additional references:
-*KTA Cycle: Lost in Knowledge Translation? Time for a Map*
https://journals.lww.com/jcehp/Abstract/2006/26010/Lost_in_knowledge_translation__Time_for_a_map_.3.aspx

-*Original study with which this implementation plan is concerned:*Implementation of High-Intensity Stepping Training During Inpatient Stroke Rehabilitation Improves Functional

Outcomes. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7034641/

-ANPT: Locomotor Training CPG Resource Page: This page has an abundance of information/resources for clinicians interesting in implementing HIT in their clinic. https://neuropt.org/practice-resources/anpt-clinical-practice-guidelines/locomotion

ANPT Annual Conference: Submit your work!

The **Second Annual ANPT Annual Conference** will be in October in Minneapolis!

Submission Portals are now open for educational sessions and posters.

Education Submission Portal and Guidelines
Submissions due March 17 11:59 ET

Poster Submission Portal and Guidelines
Submissions due March 24 11:59 ET

KEY DATES

- February 9, 2022 – Poster submissions open
- February 9, 2022 - Education submissions open
- March 1, 2022 - Sponsorship and Exhibitor sign up begins
- March 17, 2022 – Education submissions close
- March 24, 2022 - Poster submissions close
- June 27, 2022 - Registration opens

There is Still Time to Run for Office! ANPT and Special Interest Group Elections

ONE MORE WEEK! Submit your Nominations for Stroke SIG office today!

The following Stroke Special Interest Group are open:

- Chair Elect
- Vice Chair
- Nominating Committee

Nominations are due March 21, 2022 and you are encouraged to self-nominate. The nomination link is now live on the ANPT Elections Webpage.

Elections will be held April 4 - May 4, 2022. Three year terms begin July 1, 2022.

All Stroke SIG board positions involve attendance at monthly meetings and leadership of one of our Stroke SIG initiatives, such as our podcast, Student Corner, Social media, or weekly newsletter. Nominees must be Academy of Neurologic PT Members in good standing.

For more information on Stroke SIG initiatives, visit our page here.

Don't hesitate to reach out to our Nominating Committee for more information at strokesig@gmail.com

Nominating Committee Members:

- Rachel Prusynski (Chair)
- Ginny Little
- Mackenzie Wilson

ELECTIONS WEBSITE

VISIT THE STROKE SIG ONLINE!

MEMBERSHIP MATTERS
Academy of Neurologic Physical Therapy

Academy of Neurologic Physical Therapy
info@neuropt.org | www.neuropt.org

ANPT Social Media