



STROKE SPECIAL INTEREST GROUP

Academy of Neurologic Physical Therapy

In this newsletter...

- Next All Members Meeting - TRIVIA NIGHT!
- New Article Review!
- Check out our latest Stroke SIG Podcast Episode!
- Meeting Minutes from May All Membership Meeting



Join us for our next Stroke SIG All Membership Meeting! We will discuss the benefits of attending the ANPT Conference and have trivia with **PRIZES** (including Blaze Pods!!!)

Thursday, July 31st at 6:30 CST/7:30 EST

Zoom link: <https://us06web.zoom.us/j/81922921004?pwd=RkFkUHVBWZ5ZTYyNXdlYkwyQ054QT09>

Meeting ID: 819 2292 1004

Passcode: 625489

(Trivia Night is replacing our previously scheduled meeting on July 10th.)



**STROKE SIG
ARTICLE REVIEW**
Academy of Neurologic Physical Therapy



Summary topic title: Non-Pharmacological Interventions for Post-Stroke Fatigue: Systematic Review and Network Meta-Analysis

Article reference: Su Y, Yuki M, Otsuki M. Non-pharmacological interventions for post-stroke fatigue: systematic review and network meta-analysis. *J Clin Med*. 2020;9(3):621.doi:10.3390/jcm9030621

Link to full article: [Non-Pharmacological Interventions for Post-Stroke Fatigue: Systematic Review and Network Meta-Analysis](#)

Definitions:

Non-pathological fatigue: an overall state of tiredness that lasts less than 3 months (acute) and has a known origin, which is typically related to increased exertion or lifestyle changes, and can decrease with rest

Pathological fatigue: can occur in individuals with chronic illness, lasts for a longer duration (chronic), and can lead to reduced functional mobility and quality of life. Pathological fatigue does not typically decrease with rest

Post-stroke fatigue (PSF): a type of pathological fatigue in which individuals feel physically tired and experience reduced energy. PSF is identified through subjective outcome measures, including the Fatigue Severity Scale (FSS) and Checklist of Individual Strength (CIS), however, there is no objective measure to assess PSF

Community Health Management (CHM): a multidisciplinary, community-based intervention including education to the patient and families, medication management, community activities, fatigue management, and psychological care

Traditional Chinese Medicine (TCM): a collection of therapeutic approaches based on traditional Chinese practices focused on restoring balance and energy, including acupuncture., moxibustion combined with massage, and transcutaneous acupoint electrical nerve stimulation

Cognitive Behavioral Medicine (CBT): a psychological approach that targets thoughts, beliefs, and behaviors that contribute to fatigue. This framework includes organizing schedules, energy conservation, sleep hygiene, activity pacing, and relaxation

Respiratory Therapy (RT): breathing-focused interventions focused on improving oxygenation and reducing fatigue

Music Therapy (MT): the use of music as a therapeutic tool to improve emotional and physiological well-being

Circuit Training (CT): a structured physical training program involving multiple stations that target endurance, strength, and mobility. Task-oriented programs that includes a warm-up, exercise circuits, and group games

Hyperbaric Oxygen Therapy (HOT): medical treatment where patients breathe 100% oxygen in a pressurized chamber

Purpose of article: The purpose of this article was to evaluate the effectiveness of various non-pharmacological interventions in individuals with post-stroke fatigue (PSF). Due to the lack of standardized pharmacological treatments for PSF, the authors sought to compare multiple non-pharmacological interventions through a systematic review and network meta-analysis (NMA) to guide clinical practice.

Methods of interest: This study adhered to PRISMA-NMA guidelines and was registered in PROSPERO. The authors conducted a systematic literature search across seven databases for randomized controlled trials published in English and Chinese through January 2018 (updated through 2019). Studies included reports of fatigue using only the Fatigue Severity Scale (FSS).

- Inclusion criteria: Adult stroke survivors (ischemic or hemorrhagic), intervention using a non-pharmacological method, and fatigue measured by FSS.
- Interventions studied: 8 types, including Community Health Management (CHM), Traditional Chinese Medicine (TCM), Cognitive Behavioral Therapy (CBT), Respiratory Training (RT), Music Therapy (MT), Circuit Training (CT), Hyperbaric Oxygen Therapy (HOT), and MT + RT.
- Statistical Analysis: Both pairwise meta-analyses and Bayesian network meta-analyses were performed using STATA, RevMan, and ADDIS software. Risk of bias was assessed using the Cochrane tool.

Results of interest: The systematic review and network meta-analysis included ten randomized controlled trials evaluating eight non-pharmacological interventions for PSF with a total of 777 participants. While the direct comparisons showed some of the non-pharmacological interventions, including CHM, CBT, MT, and RT, to be superior to the control groups, the NMA found no statistically significant differences in fatigue reduction among the eight interventions overall. Pairwise analyses showed that several interventions, including CHM, TCM (multimodal), CBT, MT,, and RT, were significantly more effective than the control groups. However, CT and HOT did not demonstrate significant benefits.

- Ranking of interventions by probability of effectiveness:
 1. Community Health Management: 41% probability of being most effective
 2. Traditional Chinese Medicine: 23%
 3. Cognitive Behavioral Therapy: 17%
 4. Music Therapy + Respiratory Therapy
 5. Music Therapy
 6. Respiratory Therapy
 7. Hyperbaric Oxygen Therapy
 8. Circuit Training: 35% probability of being the least effective

*Exact percentages for ranks 4–7 were not explicitly listed in the article, but their order is based on the cumulative probability ranking figure provided.

Risk of bias was generally low or unclear; no studies were deemed high risk overall, though allocation concealment and blinding were often not clearly reported.

Discussion: This study highlights the potential of non-pharmacological interventions in managing post-stroke fatigue, with Community Health Management, Traditional Chinese Medicine, and Cognitive Behavioral Therapy

ranking as the most promising approaches. Although no interventions showed statistically significant superiority over others, these three demonstrated the highest probability of effectiveness. Limitations included small sample sizes, limited follow-up data, and methodological inconsistencies across studies. Despite these issues, this review offers valuable guidance for clinicians and emphasizes the need for more rigorous research to establish best practices for treating PSF.

Additional references:

Outcome measures:

Fatigue Severity Scale (FSS): <https://www.sralab.org/sites/default/files/2017-06/sleep-Fatigue-Severity-Scale.pdf>

Krupp LB, Alvarez LA, LaRocca NG, Scheinberg LC. Fatigue in multiple sclerosis. *Arch Neurol*. 1988;45(4):435-437. doi:10.1001/archneur.1988.00520280085020

Checklist of Individual Strength (CIS):

https://neurosurgery-research.redcap.louisville.edu/astroh_docs/cis.pdf

Vercoulen JH, Swanink CM, Fennis JF, Galama JM, van der Meer JW, Bleijenberg G. Dimensional assessment of chronic fatigue syndrome. *J Psychosom Res*. 1994;38(5):383-392. doi:10.1016/0022-3999(94)90099-x



Check out our Latest Stroke SIG Podcast Episode!

Check out our latest podcast episode, found on the ANPT podcast website and podcast streaming platforms (search ANPT Stroke Special Interest Group)!

Stroke SIG: Neurotechnology and Stroke Rehab : A Student-Focused Episode – Episode 28

The Student Corner of the Stroke SIG (Ben Lindamen, Pam Bosch, and Dana Kohl) took a question from a student regarding the role of neurotechnology in stroke rehabilitation. This podcast discusses the evidence behind some of the neurotechnology you may (or may not have!) heard of to support the recovery of those with neurologic impairments.

If you are a student and have a question regarding stroke rehabilitation, we are here to help! Submit questions here: <https://www.neuropt.org/special-interest-groups/stroke/resources-for-students>

Check out the ANPT Podcast site by clicking [here](#)!

Meeting Minutes from March's All Membership Meeting

Thursday May 8, 2025 6:30-7:30 pm CST

- Welcome Mackenzie
- Old Business: Mackenzie
- Introductions as needed
- Google Doc Updates for Article Reviews: Switching from Trello to Google Docs. More to come at a later date!
- Initiative Updates
 - Awards: Arco/Kyela
 - New Awards Director Kyela C! Based in TX, acute care clinician.
 - MF - Special thanks for Arco for his ~4 years of service
 - MF - Congrats to the CSM poster/platform winners!
 - Awards open for Stroke SIG Research and Service
 - If you would like to nominate someone but do not have time, please let one of us know!
 - MF – process is easy!
 - Arco – nominations have started (May 1st) and will close Aug 1st
 - Social media: Ann/Jemma
 - Posted award winners on social media
 - Volunteers are being brought on and up to speed
 - Continued looking for volunteers
 - Student Resources: Ben
 - Potential Podcasts
 - New podcast coming within the week
 - NPTE Questions
 - Student NPTE Stroke cheat sheet – going to be complete by end of summer 2025
 - CPG links, EDGE documents, NPTE questions, podcasts, etc
 - Podcasts: Mackenzie
 - Team is growing!
 - Podcasts from Student Corner have been helpful to fill gap during podcast transition.
 - One last call for volunteers!!
 - Newsletters/Article Reviews Mackenzie/Olivia
 - Newsletters
 - Article Reviews
 - New Article Reviews Director: Olivia V!!
 - Google drive up and running!
 - Nice to have the examples
 - Easy volunteer opportunity!
 - Website: Jess
 - Website: We have fixed some bugs in the new platform, and the web editor is making some additional changes to help reduce some visual gaps on the main page - so know that the website is continuing to evolve!
 - I will be cycling off the Board after the June meeting, however I'd be willing to stay on as a volunteer website editor if that would be helpful to the team. Just let me know!

- Nom Com
- Nom Comm: No updates from my perspective, and I'm sure Ann & Dennis will jump in with anything they may have. Scheduling meeting to onboard Ann.
- Suggestions
 - Having meeting(s) related to case discussion: Lorenzo
 - Having people's research needs within the newsletter: Swapna
- Volunteer Needs: Board
 - Article Reviewers
 - Awards raters/volunteers for ANPT Annual Conference in October (and CSM 2026)
- Adjourn: **Next Stroke SIG All Members Meeting – Thursday, July 31st at 6:30 CST/7:30pm EST - TRIVIA NIGHT!!**



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