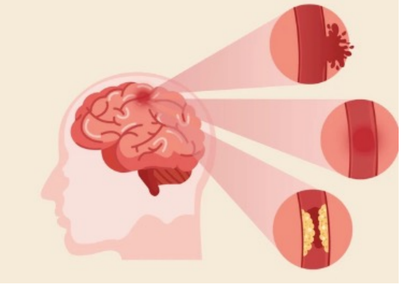

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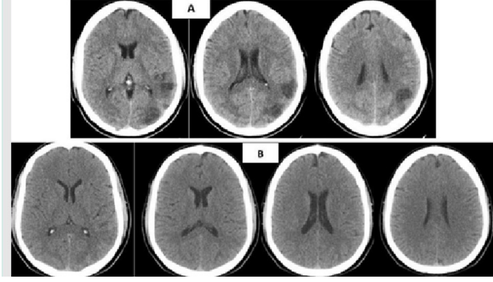

Early Mobilization vs. Delayed Mobilization: Improve Stroke Patient's Functional Independence

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Background and Significance

- Stroke is a leading cause of disability and death due to ischemic (blocked vessels) or hemorrhagic (ruptured vessels) events (NIH, 2023).
- Early mobilization (EM) within 24–72 hrs post-stroke improves neuroplasticity, reduces complications (e.g., pneumonia, DVT), and enhances recovery outcomes (Murphy, 2020).
- Functional independence is assessed using tools like the Barthel Index (BI), Functional Independence Measure (FIM), modified Rankin Scale (mRS), and NIH Stroke Scale (NIHSS).
- EM improves ADLs and cognitive recovery, while delayed mobilization may increase complications and neurological decline.
- **Purpose:** To examine whether EM improves functional independence within 3 months post-stroke compared to delayed mobilization (DM)

Methods

- In acute stroke patients, does early mobilization (EM) compared to delayed mobilization (DM) improve the patient's functional independence within one month?

Literature Search:

- Databases used: Pubmed & Google Scholar.
- Keywords included: acute stroke, very early mobilization, delayed/late mobilization, and Barthel Index.
- Initial search generated over 7,000 articles.
- Inclusion: peer-reviewed studies published within the last five years.
- After refining, 1, 506 articles remained.
- 30 articles were reviewed, and 6 studies were included in the final analysis.

Acknowledgment

A special thank you to Dr. Legambi for the support and assistance throughout the development of this project.

Evidence Summary

Study Findings	Level Rating: (Melnyke, 2019)	Quality Rating: (JHNEBP)
Mancuso et al. (2025) found that stroke patients who received early mobilization (within 24-72 hrs) had higher Barthel Index (82.9) scores than those with delayed EM. individualized mobilization timing is recommended based on patient conditions.	3	2
Sato et al. (2024) found that EM withing 48 hrs improved BI, mRS (<3), and NIHSS scores (3.23-1.33 vs 10.88-8.13), especially in patients with lower stroke severity. Emphasized need for personalized EM protocols.	3	2
Yen et al. (2019) found that EM (24-72 hrs) improved FIM-Motor (P<0.005), FAC scores (P<0.05), reduced hospital stays and complications in stroke patients.	2	1
Oommen et al. (2020) found that EM (24-48 hrs) did not improve mRS (P=0.206) or NIHSS scores (P=0.358). EM may enhance motor function without providing full independence.	2	1
Yen et al. (2024) found that EM (24-72 hrs) post thrombolysis significantly improved BI, FAC scores (P=0.011), and FIM scores at 2 weeks (F=5.586, P=0.021) and 4 weeks (F=4.086, P=0.048) compared to standard care.	2	1
Anjoes et al. (2023) found no significant improvement in mRS scores with very early mobilization (within 12 hrs post thrombolysis) to standard care (24 hrs after thrombolysis), but EM was a safe intervention in the acute stroke setting.	2	2

References

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Summary and Conclusions

- EM within 24-72 hours post-stroke stroke improves functional independence, ADLs, and recovery outcomes.
- Improved outcomes are proven by increased FIM, BI, and mRS (Mancuso, Sato, Yen).
- EM enhances brain cognition, mobility, and shortens hospital stays.
- Benefits of EM vary by stroke severity, emphasizing the need for individualized EM protocols (Oommen, Anjos).
- Further research should examine EM protocols (timing, intensity, type), and the use of virtual reality technology to boost neuroplasticity and recovery outcomes.

Implications for Nursing Practice

- Nurses establish individualized rehab programs, monitor safety, and facilitate interdisciplinary collaboration.
- Pre-EM assessments (vitals, neuro, cardiac function) are essential to prevent complications, including stroke recurrence.
- Implementing standardized EM protocols and evidence-based training can improve patient outcomes.

CNL Role

- Coordinate with interdisciplinary teams to establish individualized care plans.
- Monitor patient progress with EHR and intervene when changes occur.
- Educate nursing staff on evidence-based mobilization protocols.
- Establish and lead structured EM programs.