



# Descriptive Analysis of Interventions Used by Occupational Therapists in Stroke Acute Care Settings

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## Introduction

- Stroke is the leading cause of disability in the United States, and rehabilitation of individuals in the stroke acute care phase has changed significantly in the past 30 years following new research findings.
- There is a lack of evidence supporting the effectiveness of occupational therapy interventions used in acute stroke rehabilitation settings.
- Purpose:** To compare the interventions provided by occupational therapists (OTs) working in stroke acute care to the current evidence-based practices.

## Methods

- Design: Observational study
- Participants: Licensed occupational therapy practitioners (OTP) were contacted through social media, flyers, and email for recruitment.
- Data collection and analysis:
  - Individuals who signed informed consent were asked to answer an online 5-min Qualtrics<sup>SM</sup> survey.
- The survey included 14 questions about the assessments, interventions and strategies OTPs use in the stroke acute care population. Individuals were also asked about their perception of changes of interventions provided for this population in the last 30 years.
- Individuals were also asked what are the preferred methods used to keep themselves updated on current practice, and models on which they base their practice.

## Results

- A total of 21 participants signed the informed consent, but only 16 completed the survey (Table 1).
- The average age of the respondents was 37.4 years, ranging from 24–50 years.
- Most individuals (94%) were women, had a Master's degree in occupational therapy (62.5%), had between 0–5 years of experience as an OTP (37.5%), and worked in the state of Alabama (81.3%)
- A variety of interventions and assessments were mentioned by the respondents:
  - The most common interventions mentioned by OTPs were: neurological reeducation (11.8%), neurodevelopmental treatment (Bo bath) (11.8%), and weight bearing (7.8%) (Figure 1).
- As shown in Figure 2, the assessments most used by the OTPs were: motor function capacity (43.5%), and ADLs/IADLs (15.2%), and cognitive measurements (13%).
- OTPs mentioned multiple sources for staying up to date with interventions and methods used with individuals in the acute phase of recovery after stroke:
  - Continuing education courses (37%), journal articles (22.2%), and learning from other OTPs and clinicians (14.8%).
- Only four OTPs reported the models and theories they used in the clinical setting, including sensory integration theory (6.3%), Model of Human Occupation – MOHO (6.3%), cognitive behavioral theory (6.3%), and the biomechanical model (6.3%).

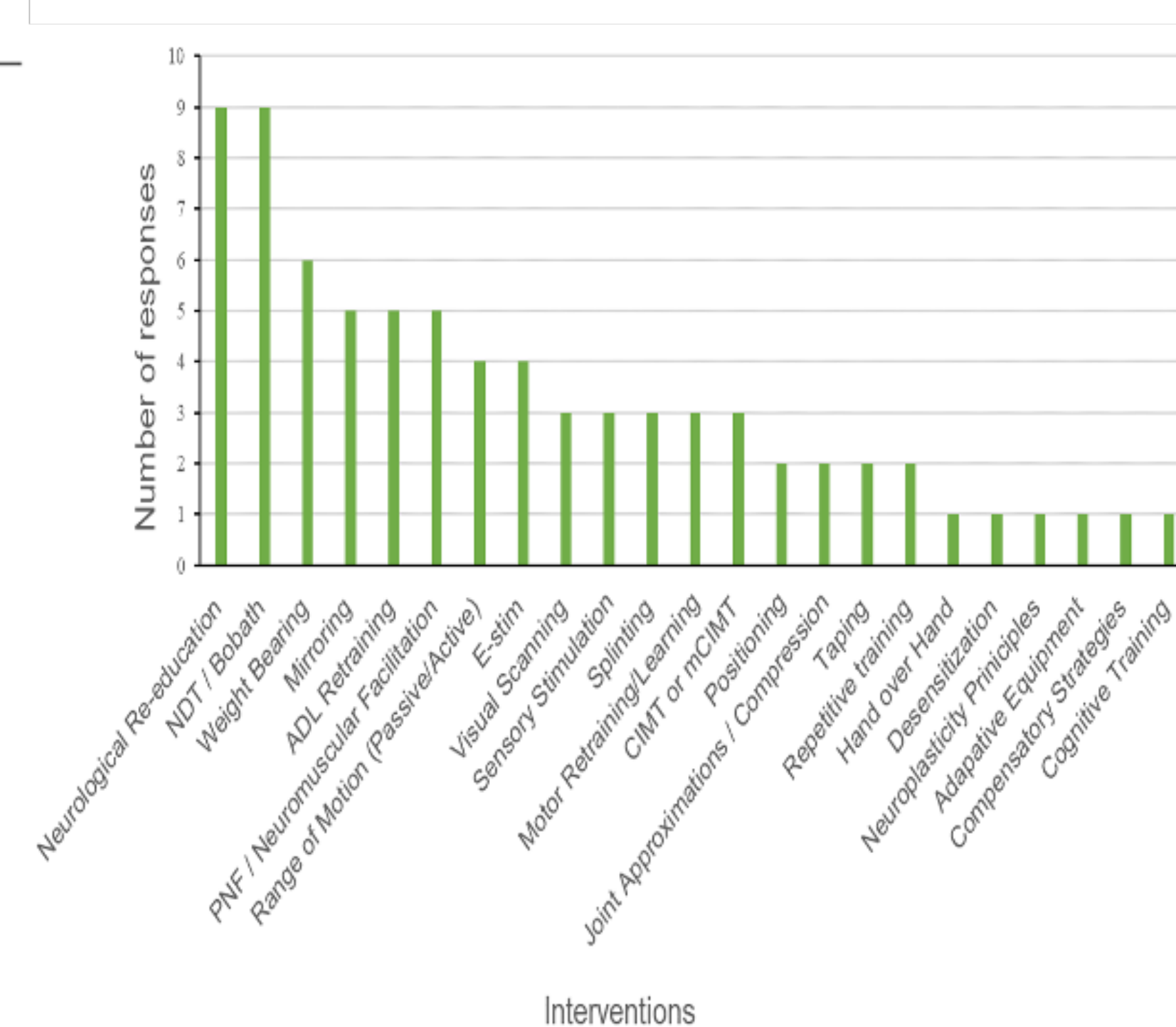
## Results cont.

Table 1. Demographic characteristics

Characteristics	Participants (N=16)
Age (mean / range)	37.4 (24-50)
<b>Gender</b>	
Female (N/%)	15 (94)
Male (N/%)	1 (6.3)
<b>Education level</b>	
OTA (N/%)	1 (6.3)
BOT (N/%)	3 (18.8)
BOT (N/%)	10 (62.5)
MSOT (N/%)	1 (6.3)
OTD (N/%)	1 (6.3)
Not answered	
<b>Years of experience</b>	
0-5 years (N/%)	6 (37.5)
5-10 years (N/%)	2 (12.5)
10-15 years (N/%)	3 (18.8)
15-20 years (N/%)	0 (0)
20-25 years (N/%)	2 (12.5)
25-30 years (N/%)	1 (6.3)
Over 30 years (N/%)	2 (12.5)
<b>State of practice</b>	
Alabama (N/%)	13 (81.3)
Illinois (N/%)	1 (6.3)
North Dakota (N/%)	1 (6.3)
North Carolina (N/%)	1 (6.3)

Note: Occupational therapy assistant (OTA), Bachelor of occupational therapy (BOT), Master of science in occupational therapy (MSOT), Occupational therapy doctorates (OTD).

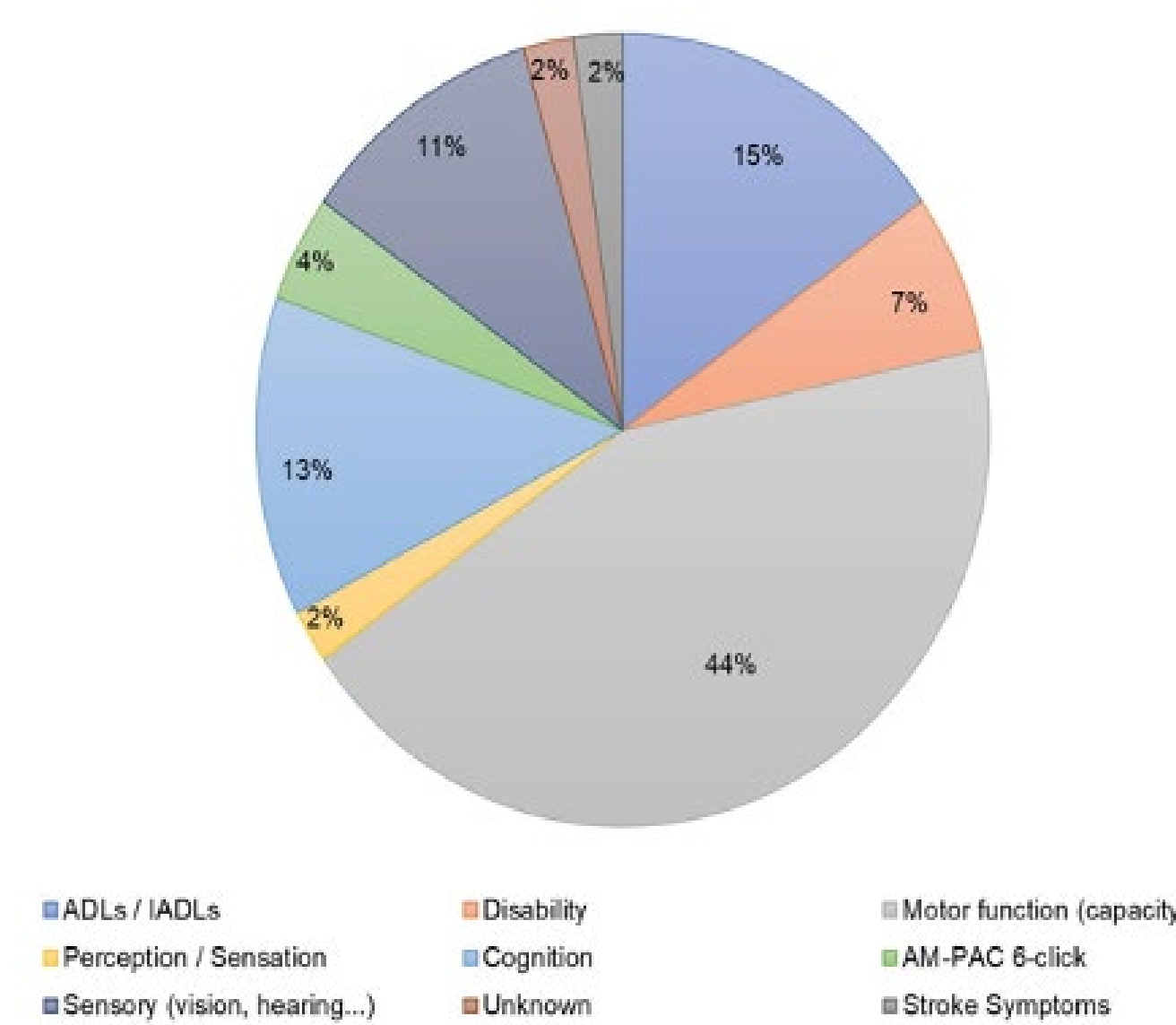
Figure 1. Interventions used by occupational therapists in the stroke acute setting.



Note: NDT = Neurodevelopmental treatment; PNF = Proprioceptive neuromuscular facilitation, ADL = Activities of daily living, E-stim = Electrical stimulation, CIMT = Constraint induced movement therapy and mCIMT = modified constraint induced movement therapy.

- A variety of choice of approaches were provided when treating individuals in the stroke acute care (Table 2).
  - The most common four responses of approaches were: patient level of function (20%), client goals (13.3%), type of stroke (10%), and cognitive level (10%).

Figure 2. Common assessments used by occupational therapists in stroke acute care.



Note: ADLs = Activities of daily living, IADLs = Instrumental activities of daily living, AM-PAC = Activity measure for post-acute care.

Table 2. Choice of approach for interventions.

Reason for choice of approach	Number of responses N (%)
Patient level of function	6 (20)
Client goals	4 (13.3)
Type of stroke	3 (10)
Cognitive level	3 (10)
Experience	1 (3.3)
Medical acuity/complexity	1 (3.3)
Level of performance	1 (3.3)
Clinical findings	1 (3.3)
Individualized approach	1 (3.3)
Unique findings	1 (3.3)
Values	1 (3.3)
Contexts	1 (3.3)
Roles	1 (3.3)
Clinical judgement	1 (3.3)
Level of hemiparesis	1 (3.3)
Visual impairment	1 (3.3)
Affected brain area	1 (3.3)
Home environment	1 (3.3)

## Discussion

- Most evidence-based interventions have not been used in the acute clinical setting by OTPs; however, there are still unanswered questions about the cause of this mismatch.
- Unified terminology was a factor within this study that required responses to be omitted due to OTPs not providing a further explanation of an intervention or of assessments reported in the survey.
- Limitations included a small sample size and no specific guidelines for OTPs.
- Future studies should explore the development of intervention guidelines for OTPs, as well as terminology to be used by all members of interdisciplinary team. Further investigation of the reason for the gap between clinical and research settings is deeply needed.

## Conclusion

- In the acute care setting for stroke patients, a high variability of interventions and techniques are being used by OTPs.
- This underscores the necessity for the publication of new guidelines to keep practitioners informed about the most effective interventions and assessments available.
- These survey findings can serve as valuable reference points for current OTPs, fostering a more open-minded approach to treatment strategies while bridging the knowledge gap left by outdated methods used in the field for decades.

## References

Creek, J. (2006). A standard terminology for occupational therapy. *British Journal of Occupational Therapy*, 69(5), 202–208. <https://doi.org/10.1177/030802260606900502>

Powers, W. J., Rabinstein, A. A., Ackerson, T., Adeoye, O. M., Bambakidis, N. C., Becker, K., Biller, J., Brown, M., Demaerschalk, B. M., Hoh, B., Jauch, E. C., Kidwell, C. S., Leslie-Mazwi, T. M., Ovbiagele, B., Scott, P. A., Sheth, K. N., Southerland, A. M., Summers, D. V., & Tirschwell, D. L. (2019). Guidelines for the early management of patients with acute ischemic stroke: 2019 update to the 2018 guidelines for the early management of acute ischemic stroke: A guideline for healthcare professionals from the American Heart Association/the American Stroke Association. *Stroke*, 50(12), e344–e418. <https://doi.org/10.1161/STR.0000000000000211>

Winstein, C. J., Stein, J., Arena, R., Bates, B., Cherney, L. R., Cramer, S. C., Deruyter, F., Eng, J. J., Fisher, B., Harvey, R. L., Lang, C. E., MacKay-Lyons, M., Ottenbacher, K. J., Pugh, S., Reeves, M. J., Richards, L. G., Stiers, W., Zorowitz, R. D., & American Heart Association Stroke Council, Council on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology, and Council on Quality of Care and Outcomes Research (2016). Guidelines for adult stroke rehabilitation and recovery: A guideline for healthcare professionals from the American Heart Association/the American Stroke Association. *Stroke*, 47(6), e98–e169. <https://doi.org/10.1161/STR.000000000000009>

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