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Changes in speech and right-hand function following color-based Sujok therapy in a patient with persistent neurological symptoms: a case report

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ABSTRACT

Background: Speech impairment and motor deficits may persist following neurological injury despite conventional rehabilitation.

Case Presentation: A 61-year-old woman developed severe speech impairment, right-hand weakness, and severe back pain following a traffic accident in late 2025. Approximately three months later, these neurological symptoms persisted.
Management and Outcome: Sujok therapy was administered by a nurse trained in Sujok therapy beginning on January 26, 2026. Treatment targeted the accident date, the brain, spinal, motor, and mouth correspondence areas using standardized hand correspondence points and Triorigin color therapy. Four sessions were provided between January 26 and February 2, 2026. Back pain decreased from a Numeric Rating Scale (NRS) score of 10 to 5 after the first session and was reported as absent two days later. Speech progressively improved to sentence-level communication by day five. The patient's subjective rating of right-hand weakness decreased from NRS 10 to 3.

Conclusion: In this patient with persistent neurological symptoms, Sujok therapy was temporally associated with improvements in pain, speech, and perceived right-hand weakness during the treatment period. Although causality cannot be established from a single case, further research is warranted to evaluate the potential role of Sujok therapy as a complementary approach in neurorehabilitation.

Keywords: Sujok therapy, traumatic brain injury, speech impairment, motor recovery, complementary therapy.

Type of Article: CASE REPORT **Specialty:** Traumatology

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Introduction

Traumatic Brain Injury (TBI) is a neurological condition caused by external force to the head or body that disrupts normal brain function [1]. It is a major global health problem, affecting approximately 69 million people annually, with incidence rates in low-income countries nearly three times higher than in high-income countries [2]. In Asia, TBI is predominantly caused by road traffic accidents (around 60%) and falls (20%–30%) [3]. In Indonesia, the prevalence of head injury was reported at 11.9% in the 2018 National Health Survey [4].

Common consequences of TBI include post-traumatic epilepsy (PTE), post-traumatic cognitive impairment (PTCI), and post-traumatic stress disorder (PTSD). PTCI is characterized by impairments in sensory processing, language abilities, reasoning, consciousness, emotional regulation, attention, memory, behavioral adaptation, planning, and executive functions [5]. As a result, communication disorders are frequently observed after TBI [6], including aphasia, dysarthria, and cognitive–communication deficits that significantly affect social participation and quality of life [7].

More than 75% of adults experience cognitive–communication impairments following TBI [8,9]. The type and severity of communication disorders depend on the location and extent of brain damage, manifesting as speech impairment, language impairment, or both [10]. Therefore, targeted intervention is essential. Speech–language pathologist (SLP)-guided interventions are strongly recommended for individuals with post-TBI communication disorders, typically employing behavioral approaches such as verbal and visual cues, feedback, and structured practice [11,12].

Complementary therapies are used alongside primary rehabilitation to optimize recovery and improve quality of life. In individuals with post-TBI communication disorders, several complementary interventions

have demonstrated potential benefits, including electroacupuncture and acupuncture [13], Augmentative and Alternative Communication (AAC) [14], and discourse therapy guided by SLPs [15].

Combined electroacupuncture or scalp acupuncture with language training has been shown to improve language and cognitive function in patients with severe craniocerebral injury and aphasia [13]. AAC-based rehabilitation, typically initiated within three months post-injury, targets speech, motor, and cognitive impairments through staged interventions involving memory training, communication practice, motor rehabilitation, and speech therapy [14]. These approaches support neuroplasticity and functional communication recovery, particularly when integrated with structured speech therapy programs [15].

However, clinical reports describing the use of Sujok therapy as a complementary approach for managing neurological symptoms following brain injury remain limited.

Nurses play a central role in rehabilitation through ongoing assessment, symptom management, patient education, and coordination of interdisciplinary care. Within holistic nursing practice, complementary approaches may serve as supportive, non-pharmacological strategies to enhance functional recovery and patient comfort.

This case report describes the use of Sujok therapy as a complementary intervention for managing persistent neurological symptoms following a traffic accident. The case focuses on speech impairment, back pain, and right-hand weakness. By presenting this report, we aim to add to the limited evidence on complementary and integrative approaches in rehabilitation and to explore the potential role of Sujok therapy as an adjunct to conventional care.

Case Presentation

The patient was a 61-year-old woman who experienced a traffic accident on October 31, 2025. She subsequently underwent surgery on the right ankle/foot in November 2025. Following the accident, the patient reported marked speech difficulty characterized by difficulty opening the mouth, inability to articulate words, and inability to pronounce her own name. Additional symptoms included severe back pain and right-hand weakness. The patient reported weakness affecting the right upper limb, which she subjectively rated using a Numeric Rating Scale (NRS) from 0 to 10; this rating was used to describe perceived severity of weakness rather than objective muscle strength.

Prior to Sujok therapy initiation, the patient reported persistent symptoms for approximately three months. The original hospital records from the time of the accident were not available to the authors; therefore, the initial neurological diagnosis, CT findings, Glasgow Coma Scale score, anatomical location of any brain lesion, and details of the medical or surgical management could not be independently verified. According to the patient, CT imaging had been performed, but the report was retained by the treating hospital and was not available to the authors; MRI was not performed. At the time of Sujok therapy, the patient reported that speech therapy and physiotherapy had not yet been initiated; these therapies were subsequently started after Eid al-Fitr 2026, twice weekly for approximately one month. During the treatment period, the patient reported no use of herbal medicine or other traditional therapies. A referral letter reviewed by the co-author in July 2026 documented diagnoses of cerebral infarction, dysarthria, right-sided hemiparesis, and diabetic neuropathy; however, these diagnoses were documented at that later time and could not be assumed to represent the patient's neurological diagnosis at the time of the 2025 accident. The same referral information documented non-insulin-dependent diabetes mellitus with other specified complications and essential hypertension, with glimepiride 2 mg, metformin 500 mg, and acarbose 100 mg listed among the medications being taken at that time. Written informed consent for treatment and publication of this case report was obtained from the patient.

Baseline assessment

Clinical findings and baseline assessment performed on January 26, 2026, before the first Sujok therapy session, documented severe speech impairment characterized by inability to articulate words and inability to pronounce her own name. The patient reported severe back pain with an NRS score of 10 (0–10) and subjective right-hand weakness rated as 10 on the NRS (0–10). The NRS rating for right-hand weakness reflected the patient's perceived severity of functional impairment and was not used as a measure of objective muscle strength.

Intervention

Sujok therapy was administered by a nurse trained in Sujok therapy across four sessions on January 26, 28, and 30, 2026, and February 2, 2026. The therapy focused on brain, spinal, and motor representation areas using the Sujok correspondence in the basic and insect systems and on the mouth correspondence area as well as the date of accident using the Sujok Triorigin system (Figure 1).

On January 26, 2026, multiple painful points corresponding to the posterior brain area were identified across all fingers in both systems. Manual stimulation was applied to the identified points, followed by blue color therapy for sedation and placement of chia seeds, as well as Triorigin chronotherapy (Triorigin Time Therapy) targeting the accident date.

Additional painful points were identified along the thoracic spine representation (T1–T8) in the basic correspondence system on both hands and treated with manual stimulation and color therapy. On January 26, 2026, the patient's back pain decreased from an NRS score of 10

to 5 immediately after the first Sujok therapy session. At reassessment on January 28, 2026, the patient reported complete resolution of back pain (NRS 0).

Triorigin therapy was applied at points J-5 (corresponding to the right upper arm) and J-12 (corresponding to the right lower arm) in the Triorigin body structure system to address the reported right-arm weakness. The points were stimulated using a probe and blue color therapy at the identified painful points on January 26, 28, and 30, 2026. On February 2, 2026, the color was changed to red as part of the intervention targeting the patient's perceived right-arm weakness.

To address the reported speech and oral-motor function, color-based Triorigin therapy was applied at point J-15, which is associated with the mouth in the Triorigin system. The intervention was applied consistently across therapy sessions.

Results

Back pain decreased from NRS 10 to 5 immediately after the first session and was reported as absent two days later. Speech progressively improved from inability to articulate words to sentence-level communication by day five. The patient's subjective rating of right-hand weakness decreased from NRS 10 at baseline to 3 at follow-up. No adverse effects were reported. Detailed treatment outcomes are presented in Table 1.

Note: Baseline assessments were performed before the first Sujok therapy session on January 26, 2026. Subsequent NRS scores for back pain and subjective right-hand weakness were recorded after the respective therapy session, as shown in Table 1.

Follow-up assessment

On February 2, 2026, the patient underwent a follow-up evaluation accompanied by an additional Sujok therapy

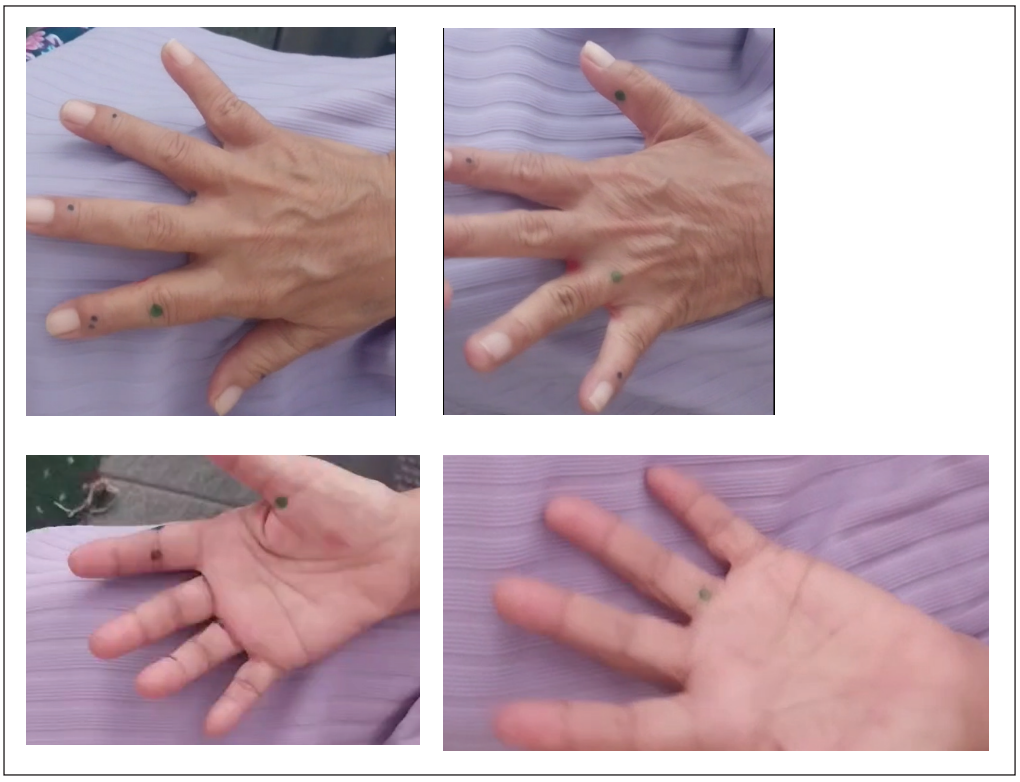


Figure 1. *Sujok therapy application on January 30, 2026, showing that the painful-point areas (blue dots beneath the nails) were less extensive than in previous therapy.*

Table 1. *Comparison of reported symptom severity before and after Sujok therapy.*

PARAMETER	BASELINE BEFORE THE 1ST THERAPY (26TH JANUARY 2026)	SUJOK THERAPY			
		AFTER THE 1ST THERAPY (26TH JANUARY)	AFTER THE 2ND THERAPY (28TH JANUARY)	AFTER THE 3RD THERAPY (30TH JANUARY)	FOLLOW-UP (2ND FEBRUARY)
Speech	Unable to speak	One day after therapy, improved clarity at the word level	Able to say her own name	Fluent sentence-level communication	Fluent sentence-level communication
Right-hand weakness (subjective NRS)	10	10	8	5	3
Back pain	10	5	0	No measurement	No measurement

session. The patient was able to perform fine motor tasks, including opening a string fastener, and her subjective rating of right-hand weakness was NRS 3 after the session.

Throughout the observation period, during the therapy, the patient reported feeling sleepy and relaxed after each therapy session. No adverse events or physical discomfort were reported following the Sujok therapy.

Discussion

In this case, improvement in speech and perceived right-hand weakness were observed during the period of Sujok therapy, with a temporal association between the intervention and the reported clinical changes. Previous literature has shown that the severity of head injury is an important factor in recovery outcomes. Individuals with mild TBI tend to recover faster and more completely, whereas those with moderate to severe TBI may experience slower and incomplete recovery beyond one year [16]. Age is another factor that may influence recovery, as older adults may demonstrate slower recovery in executive function and processing speed [17]. However, evidence addressing cognitive–communication difficulties in older adults after TBI remains limited, highlighting the need for further research to inform evidence-based practice and care planning [18].

Previous studies have shown that discourse and social communication therapies can improve communication outcomes following TBI [8]. Individual speech therapy conducted three times per week for 12 weeks has been associated with increased cortical activation in perilesional and contralateral hemispheres and improvements in articulation clarity, fluency, and verbal output [15].

According to Sujok Triorigin theory, four fundamental forces are described as being involved in functional regulation: Neuto, Hetero, Homo, and Neutro. Within this theoretical framework, each force is characterized by distinct functional properties and is associated with specific colors representing its respective qualities [19,20].

Within the Triorigin theoretical framework, the application of color in a defined sequence at specific therapeutic points is proposed to influence targeted functional responses, including the restoration of impaired function [19]. In the present case, Sujok color-based Triorigin therapy was applied with the intention of addressing the patient's reported speech impairment.

Based on the microsystem representation in Sujok Triorigin therapy, the mouth area corresponds to the J-15 point, located at the middle knuckle of the index finger [19,20]. Therefore, the therapeutic protocol was directed at J-15 using color-based stimulation to address the patient's reported speech impairment.

The main limitation of this report is its single-case design, the unavailability of the patient's original hospital records from the time of the 2025 accident, and the absence of contemporaneous standardized neurological and speech-language assessment. Consequently, the initial neurological diagnosis, CT findings, Glasgow Coma Scale score, anatomical location of any brain lesion, and details of the acute medical and surgical management could not be independently verified. The reported clinical changes were documented through clinical observation and patient-reported information during the treatment period. As a single case report without standardized outcome assessment, this observation does not allow causal inference. However, the chronological documentation of the intervention and clinical changes provides a basis for further investigation of Sujok therapy as a complementary approach in neurorehabilitation.

From a nursing perspective, this case illustrates the potential integration of structured complementary interventions into rehabilitation care. Nurses are often the healthcare professionals with sustained patient contact, which may provide opportunities to incorporate non-invasive complementary approaches aimed at symptom management and patient-centered care. The clinical changes observed in this case highlight the potential relevance of incorporating holistic, patient-centered modalities as adjuncts to comprehensive rehabilitation plans.

Conclusion

This case highlights the potential role of color-based Triorigin Sujok therapy as a complementary approach for patients with persistent neurological symptoms. Although causality cannot be established from a single case, further research is needed to evaluate feasibility, safety, and effectiveness in broader clinical settings.

What is new?

This case report is among the first to describe nurse-delivered color-based Sujok therapy incorporating Triorigin chronotherapy (Triorigin Time Therapy) targeting the accident date for persistent post-traumatic speech impairment, right-hand motor weakness, and back pain after TBI, demonstrating rapid functional improvement and highlighting its potential as a complementary neurorehabilitation approach.

List of abbreviations

AAC	Augmentative and alternative communication
CT	Computed tomography
MRI	Magnetic resonance imaging
NRS	Numeric rating scale
PTE	Post-traumatic epilepsy
PTCI	Post-traumatic cognitive impairment
PTSD	Post-traumatic stress disorder
SLP	Speech-language pathologist
TBI	Traumatic brain injury

Acknowledgment

The authors sincerely thank the patient and her family for their willingness to participate and share their clinical experience.

Conflict of interest

The authors declare that they have no conflicts of interest regarding the publication of this case report.

Ethical Approval

This case report was conducted in accordance with the principles of the Declaration of Helsinki. Written informed consent was obtained from the patient before the clinical information was documented and reported.

Consent to participate

Written informed consent was obtained from the patient to participate in this case report.

Data Availability Statement

All relevant data supporting this case report are included within the article. Additional data are available from the corresponding author upon reasonable request.

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References

1. Sudhakaran P. Traumatic brain injury: acupuncture treatment. Med Acupunct. 2023;35(5):251–6. https://doi.org/10.1089/acu.2023.0017
2. Dewan MC, Rattani A, Gupta S, Baticulon RE, Hung YC, Punchak M, et al. Estimating the global incidence of traumatic brain injury. J Neurosurg. 2018;130(4):1080–97. https://doi.org/10.3171/2017.10.JNS17352
3. Maas AI, Stocchetti N, Bullock R. Moderate and severe traumatic brain injury in adults. Lancet Neurol. 2008;7(8):728–41. https://doi.org/10.1016/S1474-4422(08)70164-9
4. Kementerian Kesehatan Republik Indonesia. Hasil Riset Kesehatan Dasar Tahun 2018. Jakarta: Kementerian Kesehatan RI; 2019.
5. Lin J, Zhao L, Yang L, Guo Z, Wang T. Current non-pharmacological therapies and new directions for cognitive dysfunction following traumatic brain injury. Behav Brain Res. 2025;495:115774. https://doi.org/10.1016/j.bbr.2025.115774
6. MacDonald S, Shumway E. Optimizing our evidence map for cognitive-communication interventions: how it can guide us to better outcomes for adults living with acquired brain injury. Int J Lang Commun Disord. 2024;59(2):623–47. https://doi.org/10.1111/1460-6984.12817
7. Ansari M, Singh H. Neuroplasticity in speech and language recovery following stroke or traumatic brain injury. Int J Multidiscip Res. 2025;7(6):59730. https://doi.org/10.36948/ijfmr.2025.v07i06.59730
8. Lê K, Coelho C, Fiszdon J. Systematic review of discourse and social communication interventions in traumatic brain injury. Am J Speech Lang Pathol. 2022;31(2):991–1022. https://doi.org/10.1044/2021_AJSLP-21-00088
9. Wiseman-Hakes C, Ryu H, Lightfoot D, Kukreja G, Colantonio A, Matheson FI. Examining the efficacy of communication partner training for improving communication interactions and outcomes for individuals with traumatic brain injury: a systematic review. Arch Rehabil Res Clin Transl. 2019;2(1):100036. https://doi.org/10.1016/j.arrct.2019.100036
10. Murdoch BE. Speech-language disorders associated with traumatic head injury. In: Murdoch BE, editor. Acquired speech and language disorders: a neuroanatomical and functional neurological approach. New York, NY: Springer; 1990. pp. 120–41. https://doi.org/10.1007/978-1-4899-3458-1_4
11. Togher L, Douglas J, Turkstra LS, Welch-West P, Janzen S, Harnett A, et al. INCOG 2.0 guidelines for cognitive rehabilitation following traumatic brain injury, Part IV: cognitive-communication and social cognition disorders. J Head Trauma Rehabil. 2023;38(1):65–82. https://doi.org/10.1097/HTR.0000000000000835
12. Hoffman R, Spencer E, Steel J. A qualitative exploration of speech-language pathologists' approaches in treating spoken discourse post-traumatic brain injury. Int J Lang Commun Disord. 2024;59(2):608–22. https://doi.org/10.1111/1460-6984.12866
13. Li F, Quan J, Wen Q. Effect of electroacupuncture and scalp acupuncture combined with language rehabilitation training on cognitive and speech functions of aphasia patients after craniocerebral injury. Am J Transl Res. 2022;14(8):5923–30.
14. Formica C, De Cola MC, Corallo F, Lo Buono V. Role of alternative and augmentative communication in three cases of severe acquired brain injury: a neurorehabilitative approach. Brain Sci. 2024;14(7):709. https://doi.org/10.3390/brainsci14070709
15. Wasti S, Samdani K, Tahira A, Khalil O. Neuroplastic changes associated with speech therapy in traumatic brain injury rehabilitation. Healer J Biomed Health Sci. 2025;1(1):16–22. https://doi.org/10.55735/c6c2st42
16. Dikmen S, Machamer J, Winn H, Temkin N. Neuropsychological outcome at 1-year post head injury. Neuropsychology. 1995;9(1):80–90. https://doi.org/10.1037/0894-4105.9.1.80
17. Rabinowitz AR, Hart T, Whyte J, Kim J. Neuropsychological recovery trajectories in moderate to severe traumatic brain injury: influence of patient characteristics and diffuse axonal injury. J Int Neuropsychol Soc. 2018;24(3):237–46. https://doi.org/10.1017/S1355617717000996
18. Shorland J, Douglas J, O'Halloran R. Cognitive-communication difficulties due to traumatic brain injury sustained in adults 55 years and older: a survey of speech-language pathology professional practice in Australia. Int J Speech Lang Pathol. 2024;26(1):1–15. https://doi.org/10.1080/17549507.2023.2169352
19. Park JW. Triorigin acupuncture. Volume 1. India: Smile Academy; 2008.
20. Park JW. The triorigin world. India: Smile Meditation Academy; 2009.

Summary of case

1	Patient (gender, age)	Female, 61 years old
2	Final diagnosis	Cerebral infarction, dysarthria, right-sided hemiparesis and diabetic neuropathy
3	Symptoms	Unable to speak, right-hand weakness, back pain
4	Medications	Glimepiride 2 mg, metformin 500 mg. acarbose 100 mg
5	Clinical procedure	Surgery on the righr ankle/foot following the traffic accident
6	Specialty	Traumatology