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🌐 Scapular Stabilization Exercises for Post-Stroke Shoulder-Hand Syndrome

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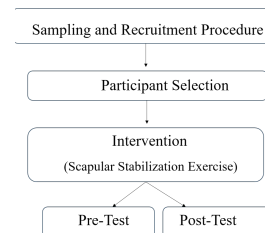
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We use this protocol and it's working

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Keywords: Post-stroke rehabilitation, Stroke recovery, Physiotherapy, Neurorehabilitation, scapular stabilization exercise program, scapular stabilization exercise, shoulder function, shoulder pain, rehabilitation guidance, based rehabilitation guidance, limb recovery, shoulder, hand syndrome this protocol, using pressure pain threshold, pressure pain threshold, hand syndrome, exercise program, disability index

Disclaimer

This protocol is intended for educational and research purposes only. It should be implemented by qualified healthcare professionals in accordance with local ethical guidelines and clinical standards. The authors and publisher do not assume any responsibility for adverse outcomes resulting from the application of this protocol.

Abstract

This protocol describes a quasi-experimental study evaluates the effectiveness of a 4-week scapular stabilization exercise program for post-stroke patients with shoulder-hand syndrome. Using Pressure Pain Thresholds (PPT), Modified Ashworth Scale (MAS), Shoulder Pain and Disability Index (SPDI), and Constant Murley Score (CMS) the study aims to improve shoulder function, reduce pain, and enhance upper-limb recovery, offering evidence-based rehabilitation guidance.

Attachments



[Protocol Summary.docx](#)

17KB



[Treatment Procedure.docx](#)

15KB

Guidelines

To ensure precise execution of the quasi-experimental study evaluating scapular stabilization exercises for post-stroke shoulder-hand syndrome (SHS), the following guidelines must be followed:

- **Participant Screening:**

- Confirm eligibility: post-stroke patients with clinically diagnosed SHS, able to follow instructions, medical stable.
- Exclude patients with severe shoulder instability, fractures, uncontrolled cardiovascular conditions, or other contraindications to exercise.

- **Training:**

- Ensure physiotherapists delivering exercises are trained in scapular stabilization techniques and post-stroke rehabilitation.
- Assessors must be trained in administering VAS, PPT, MAS, SPADI, and CMS reliably.

- **Outcome Assessments:**

- Measure pain (VAS, PPT), muscle tone (MAS), and shoulder function (SPADI, CMS) at baseline, and post-intervention.
- Assessments performed by blinded evaluators to minimize bias.

- **Data Management:**

- Collect data using structured forms and anonymize patient identifiers.
- Store data securely in password-protected database; conduct weekly audits to ensure accuracy and completeness.

- **Safety and Ethics:**

- Monitor patients for adverse events during sessions; adjust intensity or stop exercises as needed.
- Conduct study in accordance with institutional ethical guidelines and the Declaration of Helsinki.
- Obtain informed consent and respect participants' rights to withdraw at any time.



Materials

Exercise Equipment:

- Resistance bands (light to medium tension)
- Small hand weights (optional, for progression)

Assessment Tools:

- Visual Analog Scale (VAS) for pain measurement
- Pressure Algometer for Pressure Pain Threshold (PPT) assessment
- Modified Ashworth Scale (MAS) for muscle tone evaluation
- Shoulder Pain and Disability Index (SPADI) questionnaire
- Constant-Murley Score (CMS) assessment form
- Stopwatch or timer
- Data collection sheets

Safety and Support Materials:

- First-aid kit
- Chair or support for seated exercises (if needed)
- Towels or cushions for comfort and support
- Emergency contact list

Miscellaneous:

- Hand sanitizer and gloves (for hygiene)
- Pen/pencil and notebook for recording observations

Safety warnings

! Medical Contraindications: Do not perform exercises if the patient has severe shoulder instability, recent fractures, uncontrolled hypertension, cardiovascular issues, or other conditions that may be worsened by movement.

Pain and Discomfort: Stop exercises immediately if the patient experiences sharp pain, excessive fatigue, dizziness, numbness, or abnormal swelling.

Compensatory Movements: Monitor for improper scapular or shoulder movements; incorrect technique may cause strain or injury.

Supervision Required: Exercises should always be supervised by a trained physiotherapist, especially during initial sessions.

Home Practice: Ensure patients understand correct technique; improper self-administration may lead to injury.

Emergency Preparedness: First-aid equipment and emergency contacts must be available during all supervised sessions.

Individualization: Adjust intensity and repetitions based on patient tolerance.

Ethics statement

This study involves human participants and does not include experiments with animals. Prior ethical approval was obtained from the Institutional Review Board (IRB) of the Department of Physiotherapy & Rehabilitation at Jashore University of Science and Technology, Bangladesh, under permit number PTR-JUST/IRB/2025/04/25. The IRB reviewed the ethical statement checklist, participant information sheet, consent form, exercise protocol, and outcome measures, ensuring compliance with the Declaration of Helsinki, ICH-GCP guidelines, and local regulatory requirements.

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