

Physiotherapy Rehabilitation After Haglund Deformity Reconstruction with Postoperative Scar: A Case Report

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Abstract

Background: Haglund deformity may cause posterior heel pain and functional limitation. After surgery, rehabilitation may need to address pain, restricted ankle range of motion, muscle related symptoms, and postoperative scar impairment, yet reports describing multimodal physiotherapy for these concurrent problems remain limited.

Objective: To describe physiotherapy management and short-term clinical changes in a 40-year-old woman after right sided Haglund deformity reconstruction with a postoperative scar.

Methods: A single patient case report described three physiotherapy sessions at RS Tadjuddin Chalid Makassar from 29 April to 4 May 2026. Outcomes were Numeric Rating Scale pain scores, ankle range of motion, Manual Muscle Testing, scar dimensions, and Hamilton Rating Scale for Anxiety. Treatment included ultrasound, transcutaneous electrical nerve stimulation, manual therapy, scar mobilization, myofascial release, stretching, active range of motion exercise, heel raises, towel stretch, and standing calf stretch.

Results: Resting pain remained 0, tenderness decreased from 5 to 3, and movement pain decreased from 6 to 5. Ankle range of motion changed from S 20°–0°–10° to S 30°–0°–30°. MMT remained 5/5, scar dimensions were unchanged, and HRS A remained 13. No adverse events or treatment related skin or wound problems were reported.

Conclusion: The case documented temporal reductions in tenderness and movement pain and increased ankle range of motion during a short multimodal rehabilitation period. These observations do not establish treatment effectiveness or the contribution of individual intervention components.

Keywords

Achilles Tendon; Ankle Joint; Cicatrix; Haglund Disease; Pain Measurement; Physical Therapy Modalities

Introduction

Haglund deformity is characterized by a posterosuperior prominence of the calcaneus that may irritate adjacent structures, particularly the retrocalcaneal bursa and Achilles tendon. The resulting clinical presentation may include posterior heel pain and activity limitation, with symptoms affecting walking, prolonged standing, stair negotiation, running, and footwear tolerance. When conservative management does not provide adequate improvement, surgery may be considered. Surgical approaches vary according to the pathology addressed and may involve management of the calcaneal prominence and associated Achilles tendon or peri tendon structures. Contemporary reviews indicate that both open and minimally invasive approaches can improve patient reported outcomes, while differences in complication profiles and cosmetic outcomes may influence procedure selection.^{1,2}

Recovery after surgery is not limited to structural correction. Postoperative rehabilitation must account for tissue healing, ankle mobility, calf muscle capacity, Achilles tendon loading, pain, and the progressive return to functional activity. A staged approach to ankle movement and loading has been described in postoperative rehabilitation literature, with progression guided by healing status and clinical response rather than by a single universal protocol.³ This principle is particularly relevant in the posterior heel, where the surgical region is exposed to repeated movement and mechanical loading during standing and walking.

Postoperative scars may introduce an additional rehabilitation concern. A raised or thickened scar can be associated with altered tissue pliability, discomfort, and perceived restriction, especially when located near a region that undergoes repeated excursion. Mechanical influences are relevant to scar biology, and abnormal scarring has been linked with fibroproliferative activity and tissue level responses to mechanical stress.⁴ However, scar terminology should be applied cautiously when a formal dermatologic or surgical scar classification is unavailable. In the present case, the treating documentation described a keloid or scar at the healed incision site, but the available records did not provide a formal scar diagnosis or a multidomain scar assessment.

Scar mobilization and massage are commonly incorporated into rehabilitation practice, but the available evidence is heterogeneous. A systematic review of scar massage for hypertrophic burn scars reported potential improvements in several scar characteristics and symptoms, while also identifying substantial variation in intervention methods and limitations in evidence quality.⁵ Importantly, evidence derived primarily from burn scars cannot be assumed to apply directly to postoperative scars around the Achilles region. Therefore, scar management in this case is described as part of a clinically selected multimodal program rather than as an independently proven treatment for the measured outcomes.

Exercise is another central component of rehabilitation when ankle mobility and muscle tendon capacity are impaired. Evidence from Achilles tendinopathy populations supports progressive exercise and loading for pain and functional outcomes, although the pathology, treatment stage, and patient characteristics differ from those of a postoperative Haglund deformity case. Systematic reviews have reported benefits of exercise approaches in Achilles tendinopathy, and longer duration loading programs have demonstrated tendon related adaptations in selected populations.^{5–8} These findings support the general principle of progressive loading but do not establish that the same exercise dosage or progression is appropriate after surgery.

The present patient had several concurrent findings after surgery, including tenderness around the Achilles region, gastrocnemius and soleus spasm, restricted ankle range of motion, reduced heel strike, anxiety, limitations in walking and household activities, and a postoperative scar.⁶ The rehabilitation program therefore addressed more than one impairment and included electrotherapy, manual and soft tissue techniques, scar mobilization, stretching, active movement, and exercise. The clinical relevance of the case lies in documenting how these elements were delivered and modified over three sessions in a patient with combined postoperative tissue and movement related problems.

Existing literature provides information on surgery for Haglund deformity, postoperative rehabilitation principles, scar management, and exercise-based rehabilitation, but these sources do not directly describe the same combination of clinical findings, intervention sequence, and short observation period represented in this case.⁷ The available evidence also does not allow the contribution of each treatment component to be separated when interventions are delivered concurrently. Accordingly, the purpose of this case report was to describe the physiotherapy management, assessment procedures, intervention sequence, safety observations, and short-term clinical changes in pain, ankle range of motion, muscle strength, measured scar dimensions, and anxiety in a 40-year-old woman after right sided Haglund deformity reconstruction with a postoperative scar. The report is descriptive and does not seek to establish treatment effectiveness.

Methods

This report used a single patient case report design to describe physiotherapy management and clinical changes during a defined treatment period. Reporting was structured with reference to the CARE case reporting framework.⁹ The purpose was to document the individual clinical course rather than test treatment efficacy. No inferential statistical analysis, hypothesis testing, effect size estimation, or significance testing was performed. Changes are reported descriptively using values recorded before treatment at T1 and after completion of the third session at T3.

The patient was a 40-year-old woman who worked as a housewife. She reported a fall from a motorcycle approximately 13 years before the rehabilitation episode. Heel symptoms began in 2024. During 2025, she received approximately four months of physiotherapy without meaningful improvement according to the clinical history. After consultations and conservative management that did not provide the desired improvement, surgery was performed on 30 December 2025. The latest author confirmation identified the medical record description as a bone procedure for foot or ankle deformity together with a reconstruction procedure for a large tendon rupture or avulsion, with the Achilles tendon identified as the treated structure. Haglund deformity was reported to have been diagnosed on the basis of radiography, but the radiographic report and detailed imaging findings were unavailable.

The complete operative report was not available. Therefore, the exact surgical technique, extent of bone treatment, operative findings, and additional structures treated could not be reconstructed. The term right sided Haglund deformity reconstruction is retained because it was used in the clinical manuscript, while the confirmed medical record description is reported in the patient history. Missing operative details are treated as a reporting limitation rather than supplemented by inference.

Postoperative physiotherapy reportedly resumed in January 2026. The case report observation period took place at RS Tadjuddin Chalid Makassar from 29 April to 4 May 2026 and included three sessions, designated T1, T2, and T3. T1 included baseline assessment before treatment, T2 was the second treatment session, and T3 included the third session and final assessment. The number of sessions reflected the available treatment period and documentation and was not intended as an optimal rehabilitation dose.

The chronological course of the patient's condition, including the onset of symptoms, previous conservative management, surgical intervention, postoperative rehabilitation, and the three-session physiotherapy observation period, is summarized in Table 1.

Table 1. Timeline of the clinical course and reported rehabilitation period

Time	Clinical event
Approximately 13 years before case report	Fall from a motorcycle reported by the patient.
2024	Heel symptoms began according to patient history.
2025	Approximately four months of physiotherapy without meaningful improvement.
30 December 2025	Surgery reported. The confirmed medical record description included a bone procedure for foot or ankle deformity and reconstruction involving the Achilles tendon.
January 2026	Postoperative physiotherapy reportedly resumed.
29 April to 4 May 2026	Three session case report period at RS Tadjuddin Chalid Makassar.
T1	Baseline assessment and first physiotherapy session.
T2	Continuation of the multimodal program; towel stretch and standing calf stretch introduced.
T3	Third session and final recorded assessment for the observation period.
Later follow up	Further improvement and symptom reduction reported qualitatively; date and objective values unavailable.

At the reported physiotherapy period, the incision had healed and the author confirmation described a keloid or scar at the incision site. Weight bearing was tolerated according to symptoms and was described as weight bearing as tolerated. Baseline findings included limited ankle dorsiflexion, tenderness around the Achilles region, gastrocnemius and soleus spasm, reduced heel strike, and limitations in walking and household activities. Sensory examination consisted of sharp dull and coarse fine discrimination, both reported as normal. A Barthel Index assessment reportedly indicated independence in activities of daily living, but no numerical score was available. No validated quantitative gait or functional outcome was documented.

Pain was measured with the Numeric Rating Scale for resting pain, tenderness, and movement pain. At T1, the values were 0, 5, and 6. The same categories were reassessed at T3. Ankle range of motion was measured with a goniometer and recorded as S 20°–0°–10° at T1 and S 30°–0°–30° at T3. The recorded notation is retained without conversion. The values correspond to recorded increases of 10° in dorsiflexion and 20° in plantarflexion.

Manual Muscle Testing was used to describe ankle region muscle strength. The latest author confirmation specified 5/5 at both T1 and T3, defined as active movement against gravity and maximal resistance. Earlier drafts reported 4/5, but the final manuscript uses 5/5 because the later author confirmation explicitly addressed the value. Scar assessment was limited to length, width, and height. At both assessments, the dimensions were 3.5 cm, 0.8 cm, and 0.4 mm. Although earlier text referred to the Vancouver Scar Scale, the author confirmed that only these three dimensions were assessed; no domain scores or total score were available.

Anxiety was assessed using the Hamilton Rating Scale for Anxiety. The latest author confirmation specified a score of 13 at both T1 and T3 and described this level as mild anxiety. Earlier drafts reported a decrease to 10, but that value was not retained.

Therapeutic communication was provided through explanation of procedures, exercise goals, and expected responses, but the unchanged confirmed score means that the report does not claim improvement in anxiety.

The physiotherapy program was multimodal. Ultrasound was delivered using a BTL device with a recorded frequency of 1 MHz, intensity recorded as 1.2 mA, circular application over the Achilles tendon region, and a duration of 8 minutes. Mode or duty cycle was unavailable. The recorded intensity unit is retained exactly as documented and is not converted into an acoustic intensity value. TENS was delivered at 80 Hz and 25 mA for 10 minutes with contraplanar application around the Achilles region; pulse width and stimulation mode were not documented. Manual therapy used a thumb technique with approximately 50% pressure for 5 minutes over the Achilles region. Scar mobilization consisted of circular massage with tolerance based pressure for 5 minutes. Myofascial release used a direct technique around the Achilles tendon and gastrocnemius, recorded as 10 applications and 5 repetitions.

Exercise included heel raises, gastrocnemius and soleus stretching, active range of motion, towel stretch, and standing calf stretch. Heel raises were recorded as 8 counts for 3 repetitions over approximately 5 minutes. Gastrocnemius and soleus stretching were recorded as 30 counts for 3 repetitions over approximately 5 minutes. Active range of motion was recorded as 10 repetitions per region over approximately 3 minutes. Towel stretch was introduced at T2 and continued at T3 at 8 counts for 3 repetitions. Standing calf stretch was introduced at T2 and continued at T3 at 30 counts for 3 repetitions. Rest intervals, precise hold time definitions, and formal progression criteria were not documented.

All other interventions were maintained across T1, T2, and T3. Treatment was provided by the reporting clinician under supervision by a qualified physiotherapist, although the supervisor's identity and detailed qualification were unavailable. The intervention components, treatment parameters, and session-specific progression from T1 to T3 are summarized in Table 2. Interventions that were introduced after the first session are identified to distinguish them from components that were maintained throughout the observation period.

Table 2. Physiotherapy intervention schedule across the three treatment sessions

Intervention	T1	T2	T3
Ultrasound	BTL; 1 MHz; recorded intensity 1.2 mA; circular Achilles application; 8 min	Same	Same
TENS	80 Hz; 25 mA; contraplanar Achilles application; 10 min	Same	Same
Manual therapy	Thumb technique; approximately 50% pressure; Achilles region; 5 min	Same	Same
Scar mobilization	Circular massage; tolerance-based pressure; 5 min	Same	Same
Myofascial release	Direct technique around Achilles and gastrocnemius; 10 applications, 5 repetitions	Same	Same
Heel raises	8 counts × 3 repetitions; approximately 5 min	Same	Same
Gastrocnemius and soleus stretching	30 counts × 3 repetitions; approximately 5 min	Same	Same
Active ROM	10 repetitions per region; approximately 3 min	Same	Same
Towel stretch	Not given	8 counts × 3 repetitions	Same dose
Standing calf stretch	Not given	30 counts × 3 repetitions	Same dose

No adverse event, post intervention pain increase, skin irritation, wound disturbance, or reported reaction to ultrasound or TENS occurred during the three sessions, and no complaint required modification of the program. A later follow up described further improvement and symptom reduction, but the date and objective measurements were unavailable. The final comparison therefore remained limited to the recorded T1 and T3 values.

Results

The three treatment sessions were completed during the observation period from 29 April to 4 May 2026. Baseline values were recorded at T1 before the reported intervention sequence, and the final recorded values were obtained at T3 after completion of the third session. The same outcome categories were used at both assessment points. The primary numerical outcomes were Numeric Rating Scale pain scores, ankle range of motion, ankle region Manual Muscle Testing, scar dimensions, and Hamilton Rating Scale for Anxiety. Table 3 presents the observed T1 and T3 values.

Table 3. Recorded clinical outcomes at T1 and T3

Outcome	T1	T3	Absolute change
NRS resting pain	0	0	0
NRS tenderness	5	3	-2
NRS movement pain	6	5	-1
Ankle ROM	S 20°–0°–10°	S 30°–0°–30°	Dorsiflexion +10°; plantarflexion +20°
MMT, ankle region	5/5	5/5	0
Scar length	3.5 cm	3.5 cm	0 cm
Scar width	0.8 cm	0.8 cm	0 cm
Scar height	0.4 mm	0.4 mm	0 mm
HRS A	13	13	0

Abbreviations: HRS A, Hamilton Rating Scale for Anxiety; MMT, Manual Muscle Testing; NRS, Numeric Rating Scale; ROM, range of motion; TENS, transcutaneous electrical nerve stimulation; T1, first treatment session and baseline assessment; T3, third treatment session and final recorded assessment.

Resting pain was 0 at T1 and remained 0 at T3. Tenderness decreased from 5 at T1 to 3 at T3, an absolute reduction of 2 points. Movement pain decreased from 6 to 5, an absolute reduction of 1 point. No increase in pain after intervention was reported during the three sessions. The author confirmation also recorded that the patient perceived less pain interfering with daily activities and stated that she felt more comfortable. This response was qualitative and was not converted into a numerical functional score.

Ankle range of motion changed from S 20°–0°–10° at T1 to S 30°–0°–30° at T3. The recorded values corresponded to a 10° increase in dorsiflexion and a 20° increase in plantarflexion. No additional repeated measurements between T1 and T3, measurement error estimates, or separate values for other ankle movements were available. The numerical comparison therefore contains only the two documented assessment points and the arithmetic change derived from those values.

The latest author confirmation recorded ankle region MMT as 5/5 at T1 and 5/5 at T3, with an absolute change of 0. This confirmed value replaced the 4/5 value reported in earlier manuscript drafts. The scar dimensions were unchanged between

assessments. Length remained 3.5 cm, width remained 0.8 cm, and height remained 0.4 mm. No additional scar domains were recorded, and no Vancouver Scar Scale domain or total score was available.

The HRS A score was 13 at T1 and remained 13 at T3 according to the latest author confirmation. The absolute change was 0. Earlier drafts reported a T3 score of 10, but the later confirmation explicitly stated that the same score of 13 was present at both assessment points. The final outcome table therefore uses 13 at T1 and T3 and does not report an anxiety reduction.

Baseline sensory testing was normal for sharp dull and coarse fine discrimination, with no sensory disturbance documented. These tests were reported as clinical findings rather than repeated numerical outcomes. Baseline observations also included reduced heel strike, walking limitation, and difficulty with household activities. A Barthel Index assessment was reportedly performed and indicated independence in activities of daily living, but the numerical score was not available. Consequently, these functional findings are retained as descriptive clinical information and are not presented as quantitative change scores.

The treatment program included ultrasound, TENS, manual therapy, scar mobilization, myofascial release, heel raises, gastrocnemius and soleus stretching, and active range of motion across all three sessions. Towel stretch and standing calf stretch were not given at T1 and were introduced at T2 and continued at T3. No other session specific dose change was documented. The patient completed the reported progression without a recorded complaint requiring modification.

No adverse event was reported during the three sessions. The author confirmation stated that there was no increase in pain after intervention, no skin irritation, no wound disturbance, and no reported reaction to ultrasound or TENS. No complaint or response required modification of the intervention. These observations were reported as safety and tolerance information and were not associated with additional numerical scales.

A later follow up after T3 was reported qualitatively. According to the author confirmation, the patient's condition improved further and symptoms continued to decrease. Changes in walking, standing, stair negotiation, or household activities were also reported as present, but no supporting documentation was available. The date of follow up and objective reassessment values for pain, range of motion, strength, scar dimensions, anxiety, gait, or daily activities were not recorded. The later follow up was therefore not included in the numerical T1 to T3 comparison.

No p values, confidence intervals, effect sizes, or other inferential statistics were generated. The results are limited to the documented values and descriptive changes for this individual case. The reported numerical outcomes, clinical observations, safety findings, and qualitative follow up are presented separately to avoid combining documented T1 to T3 measurements with information for which the timing or objective reassessment was unavailable.

The available records did not contain intermediate numerical outcome values between T1 and T3. No repeated scar domain assessment, serial strength measurement, quantified gait test, or numerical functional reassessment was available. Consequently, the final outcome comparison is restricted to the values recorded at the first and third sessions, while sensory findings, activity observations, treatment tolerance, safety information, and later qualitative follow up are reported separately across the reported treatment period.

Documented treatment durations included 8 minutes for ultrasound, 10 minutes for TENS, 5 minutes for manual therapy, and 5 minutes for scar mobilization. Myofascial release was recorded as 10 applications and 5 repetitions. Heel raises were recorded as 8 counts for 3 repetitions, while gastrocnemius and soleus stretching were recorded as 30 counts for 3 repetitions. Active range of motion was recorded as 10 repetitions per region. Towel stretch was recorded as 8 counts for 3 repetitions, and standing calf stretch as 30 counts for 3 repetitions. Rest intervals and formal progression criteria were not documented.

At T1, the program addressed the recorded pain, scar related concern, muscle spasm, and restricted ankle movement with ultrasound, TENS, manual therapy, scar mobilization, myofascial release, heel raises, gastrocnemius and soleus stretching, and active range of motion. At T2, the same intervention components were continued and towel stretch and standing calf stretch were added. At T3, the multimodal program and the added stretching exercises were continued. The author confirmation did not identify a separate dose change for the interventions that were maintained across sessions.

Discussion

The principal finding of this case was a temporal reduction in tenderness and movement pain together with an increase in recorded ankle range of motion during a three-session multimodal physiotherapy period. Resting pain was absent at baseline and remained absent. In contrast, the latest confirmed MMT value remained 5/5, the measured scar dimensions did not change, and the HRS A score remained 13. These findings should be interpreted as a description of an individual clinical course over a short observation period rather than evidence that the treatment package caused the observed changes.⁸

The reduction in tenderness from 5 to 3 and movement pain from 6 to 5 occurred while the patient received several interventions concurrently, including TENS, manual therapy, scar mobilization, myofascial release, stretching, active movement, heel raises, and later additional stretching exercises. Because these components were delivered as a multimodal package, their individual contributions cannot be separated. Exercise based rehabilitation has demonstrated benefits in Achilles tendinopathy populations, but those studies involve different pathology and rehabilitation contexts.⁶⁻⁸ The present case therefore cannot be used to infer that evidence from tendinopathy applies directly to postoperative Haglund deformity reconstruction or that one specific modality produced the pain change.

The recorded increase in ankle range of motion was the largest numerical physical change. The program included gastrocnemius and soleus stretching, active range of motion, myofascial techniques, heel raises, and additional stretching from T2. These components were selected within a rehabilitation strategy aimed at mobility and progressive loading. Postoperative rehabilitation literature emphasizes progression of movement and loading according to tissue healing and clinical response.³ However, the change in this case may also reflect repeated movement, natural postoperative recovery, measurement variability, or other factors that cannot be separated from the intervention package.

The unchanged MMT result is important because it limits interpretation of strength related recovery. The latest confirmed value was 5/5 at baseline and at T3, meaning that the available test did not show a change over the observation period. This differs from earlier manuscript versions that reported 4/5. Using the latest explicit author confirmation improves consistency across the final manuscript, but it also means that the report should not describe measured baseline muscle weakness. The absence of change may reflect the short treatment period, a ceiling of the recorded MMT grade, or the limited ability of a single ordinal clinical grade to capture subtle changes; the available data do not allow these possibilities to be distinguished.⁹

Measured scar dimensions also remained unchanged. The identical length, width, and height at T1 and T3 show that no dimensional change was recorded during the three sessions. This result should not be interpreted as evidence that the scar itself improved or deteriorated because assessment was limited to three physical dimensions. Vascularity, pigmentation, pliability,

symptoms, and validated multidomain scar scores were not available. Although scar massage has shown potential benefits for selected outcomes in burn scar populations, the evidence is heterogeneous and does not directly establish benefit for postoperative Achilles region scars.⁵ The present case therefore supports only the descriptive statement that the measured dimensions were unchanged.

The anxiety outcome likewise required correction relative to earlier drafts. The latest author confirmation reported an HRS A score of 13 at both T1 and T3. Accordingly, the final manuscript does not claim a reduction in anxiety. Therapeutic communication was reportedly provided during each session to explain procedures, exercise goals, and expected responses, but no improvement in anxiety can be inferred from the confirmed score. This correction is important because conclusions must follow the most authoritative available data rather than preserve an earlier manuscript value.¹⁰

The functional information provides useful clinical context but remains limited. Reduced heel strike, walking limitation, and difficulty with household activities were described at baseline. A Barthel Index assessment was reportedly performed and indicated independence, but the numerical score was unavailable. Later improvement in symptoms and activity was reported qualitatively, but no objective follow up assessment was documented. Therefore, the report cannot quantify change in gait or functional independence. The difference between activity limitation and independence in basic daily activities cannot be analyzed further from the available records.

The safety observations add information about the short treatment period. No adverse event, post intervention pain increase, skin irritation, wound disturbance, or reported reaction to ultrasound or TENS was documented, and no complaint required modification of the intervention. These observations do not establish long term safety, but they accurately describe the absence of reported treatment related problems during the three sessions. The patient also tolerated the introduction of towel stretch and standing calf stretch from T2 onward.

Several limitations constrain interpretation. This is a single case with no comparator, repeated baseline, blinding, or controlled long term follow up. The complete operative report and radiographic findings were unavailable, so the exact surgical technique and postoperative structural status could not be fully characterized. Scar classification was not formally documented, and scar assessment was limited to length, width, and height. No numerical functional outcome or validated gait measure was available. Several intervention details remained incomplete, including ultrasound mode or duty cycle, TENS pulse width and mode, exercise rest intervals, and formal progression criteria. The ultrasound intensity was recorded in mA and is retained as documented without reinterpretation. The later follow up lacked a date and objective measurements. Written publication consent and an ethics approval or institutional exemption were also unavailable, which remains a submission level issue requiring resolution under the target journal and applicable institutional policy.¹¹

The clinical contribution of this report is therefore descriptive. The case illustrates how postoperative rehabilitation may address concurrent pain, restricted movement, local soft tissue findings, and scar related concerns within an individualized program. It also illustrates the importance of complete intervention documentation and consistent outcome reporting. Future case reports should provide operative details, objective imaging findings when available, fully specified treatment parameters, validated functional and scar measures, predefined follow up timing, and direct patient perspective where available. Prospective or comparative research would be required to determine whether particular physiotherapy components provide benefits beyond expected postoperative recovery.

Conclusion

In this single case, three sessions of multimodal physiotherapy were followed by a reduction in tenderness from 5 to 3 and movement pain from 6 to 5, while resting pain remained 0. Ankle range of motion changed from S 20°–0°–10° to S 30°–0°–30°, corresponding to recorded increases of 10° in dorsiflexion and 20° in plantarflexion. The latest confirmed data showed no change in ankle region MMT, which remained 5/5, no change in measured scar dimensions, and no change in HRS A, which remained 13. No adverse events, post intervention pain increase, skin irritation, wound disturbance, or reported reaction to ultrasound or TENS occurred during the three sessions. A later qualitative follow up suggested further improvement, but its timing and objective findings were not available and were therefore not incorporated into the primary outcome comparison. Because this was a single patient case with a short observation period, concurrent interventions, no comparator, and incomplete longer-term documentation, the observed changes cannot establish physiotherapy effectiveness or identify the contribution of any individual intervention. The case should therefore be interpreted as a descriptive account of short-term clinical change and rehabilitation management, with conclusions limited to the recorded outcomes and reported patient course.

Author Contribution

Siti Nurwani Cantika: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing, Original Draft Preparation, Visualization.

Andi Rahmiani Suciani P: Methodology, Validation, Supervision, Writing, Review and Editing.

Masfufah: Conceptualization, Supervision, Validation, Writing, Review and Editing.

All authors have read and approved the final version of the manuscript.

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Conflict of Interest Statement

The authors declare that they have no conflicts of interest related to the preparation, conduct, or publication of this case report.

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Ethics Statement

This case report was prepared based on the available clinical documentation of a patient who received physiotherapy management at Dr. Tadjuddin Chalid General Hospital, Makassar. According to the available information, formal ethical approval or an institutional exemption was not obtained for this case report. The patient was informed about the purpose of the case report and verbally agreed to the use of her clinical information. However, written informed consent for publication was not available in the source documentation. Therefore, written informed consent for publication should be obtained from the patient before submission, in accordance with the requirements of the target journal and applicable institutional policies.

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