

Physiotherapy Outcomes Following Modified Radical Mastectomy: A Narrative Review

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Abstract:

➤ Background

Modified radical mastectomy (MRM) remains an important surgical treatment for breast cancer in patients requiring mastectomy with axillary lymph-node management. Although surgery contributes substantially to cancer control, postoperative physical impairments may include pain, reduced shoulder range of motion (ROM), muscle weakness, altered scapular mechanics, upper-limb dysfunction, lymphedema, and reduced quality of life. Physiotherapy is an important component of multidisciplinary breast cancer rehabilitation and aims to minimize these impairments and facilitate recovery of functional independence.

➤ Objective

To narratively synthesize contemporary evidence regarding changes following physiotherapy in patients undergoing MRM, with particular emphasis on pain, shoulder ROM, upper-limb strength, functional ability, lymphedema, posture, and quality of life.

➤ Methods

A narrative literature review was undertaken using PubMed/MEDLINE, PEDro, ScienceDirect, Google Scholar, and the Cochrane Library. Literature published predominantly between January 2015 and August 2026 was considered, with earlier studies included when they provided important foundational evidence. Search terms included combinations of *modified radical mastectomy, breast cancer surgery, physiotherapy, physical therapy, rehabilitation, exercise, shoulder range of motion, upper limb function, pain, scapular strengthening, lymphedema, and quality of life*. Randomized controlled trials, controlled clinical trials, systematic reviews, meta-analyses, and relevant narrative reviews were considered. The reporting structure was informed by the Scale for the Assessment of Narrative Review Articles (SANRA).

➤ Results

The reviewed evidence indicates that exercise-based physiotherapy can improve several postoperative outcomes following breast cancer surgery. Recent meta-analytic evidence demonstrates significant improvements in shoulder flexion, shoulder abduction, and upper-limb function following physical exercise. Exercise may also improve pain and muscle strength. Early ROM appears beneficial for postoperative mobility without evidence that appropriately prescribed early exercise adversely affects most wound outcomes. MRM-specific evidence suggests that scapular strengthening can further improve shoulder pain, ROM, and functional disability. Contemporary evidence also supports appropriately prescribed exercise and physiotherapy as components of prevention and management of breast cancer-related lymphedema.

➤ Conclusion

Physiotherapy should be considered an integral component of rehabilitation following MRM. Therapeutic exercise, shoulder ROM exercises, progressive strengthening, scapular rehabilitation, postural correction, functional training, education, and individualized lymphedema management may contribute to improved physical function and quality of life. Rehabilitation should be individualized according to surgical procedure, wound healing, axillary treatment, adjuvant therapy, symptoms, and functional goals. Further MRM-specific research using standardized rehabilitation protocols and long-term follow-up is warranted.

Keywords: *Modified Radical Mastectomy; Breast Cancer; Physiotherapy; Rehabilitation; Exercise Therapy; Shoulder Dysfunction; Range of Motion; Upper-Limb Function; Lymphedema; Quality of Life.*

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I. INTRODUCTION

Breast cancer is a major global health problem and is one of the most frequently diagnosed malignancies among women. Improvements in early detection and treatment have resulted in increasing numbers of breast cancer survivors. Consequently, contemporary cancer care extends beyond tumor control to include prevention and management of treatment-related physical impairments and restoration of quality of life.

Modified radical mastectomy involves removal of the entire breast together with axillary lymph-node dissection while preserving the pectoral musculature. Although surgical techniques and postoperative management have evolved, patients may experience substantial physical consequences following surgery. These include postoperative pain, restricted shoulder movement, weakness of the upper limb, chest-wall and axillary tightness, altered scapular mechanics, protective posturing, and impaired performance of activities of daily living.

Upper-limb impairment following breast cancer surgery is clinically important because the shoulder and upper extremity are involved in numerous essential activities, including dressing, grooming, reaching, lifting, carrying, and occupational tasks. Persistent restriction may contribute to chronic pain, functional disability, reduced physical activity, and impaired quality of life.

Physiotherapy has therefore become an important component of multidisciplinary breast cancer rehabilitation. Interventions may include therapeutic exercise, ROM exercises, progressive strengthening, scapular stabilization, postural training, breathing exercises, functional rehabilitation, education, and management of lymphedema.

Evidence supporting postoperative exercise has increased considerably in recent years. A 2024 systematic review and meta-analysis involving 25 randomized controlled trials and 2,171 participants reported significant improvements in shoulder flexion, shoulder abduction, and upper-limb function following physical exercise after breast cancer surgery.¹ The pooled standardized mean differences were 0.59 for shoulder flexion, 1.01 for shoulder abduction, and 0.87 for upper-limb function.¹

Similarly, a 2023 systematic review and meta-analysis found that aerobic exercise reduced pain and improved shoulder mobility, upper-limb dysfunction, and muscle strength, while shoulder and elbow exercises were associated with improved external rotation and reduced lymphedema incidence.²

The timing of postoperative rehabilitation is also clinically relevant. A 2022 systematic review and meta-analysis examining early versus delayed ROM following

breast cancer surgery found that contemporary evidence suggested early exercise could influence ROM without demonstrating important adverse effects on wound outcomes, although certainty of evidence was generally low to very low.³

Importantly, MRM-specific evidence is also emerging. A controlled clinical trial published in 2023 reported beneficial effects of scapular strengthening on shoulder pain, disability, and ROM following MRM.⁴

Given the range of postoperative impairments and the increasing evidence supporting rehabilitation, a contemporary synthesis of physiotherapy outcomes following MRM is clinically relevant.

➤ Rationale for Physiotherapy Following Modified Radical Mastectomy

MRM and associated axillary procedures can influence the musculoskeletal, lymphatic, and functional systems. Pain and fear of movement may initially lead patients to protect the operated side. Reduced use of the limb may subsequently contribute to stiffness, muscle weakness, and functional limitations.

The major impairments potentially encountered after MRM include:

- Postoperative Pain;
- Restricted Shoulder Flexion;
- Restricted Shoulder Abduction;
- Reduced Internal and External Rotation;
- Upper-Limb Weakness;
- Scapular Dysfunction;
- Chest-Wall and Axillary Tightness;
- Scar-Related Restriction;
- Altered Posture;
- Upper-Limb Functional Limitation;
- Breast Cancer-Related Lymphedema;
- Reduced Physical Activity;
- Reduced Quality of Life.

Physiotherapy aims to address these impairments while respecting tissue healing and the patient's oncological treatment plan.

➤ Aim

The aim of this narrative review is to synthesize the available evidence regarding changes following physiotherapy in patients undergoing modified radical mastectomy, with particular emphasis on pain, shoulder ROM, muscle strength, upper-limb function, lymphedema, posture, and quality of life.

➤ *Objectives*

The objectives were to:

- Describe common physical and functional impairments following MRM.
- Review the effects of physiotherapy on postoperative pain.
- Examine changes in shoulder ROM following exercise-based rehabilitation.
- Evaluate the effect of strengthening and scapular exercises on upper-limb function.
- Discuss the role of physiotherapy and exercise in breast cancer-related lymphedema.
- Examine potential effects on posture and functional independence.
- Discuss the influence of rehabilitation on quality of life.
- Identify limitations in the existing evidence and areas requiring further research.

II. METHODOLOGY

➤ *Review Design*

A narrative literature review was conducted to provide a broad clinical synthesis of physiotherapy outcomes following MRM.

Narrative review methodology was selected because the purpose was to integrate evidence across several postoperative outcomes and physiotherapy approaches rather than to answer a single narrowly defined intervention question.

The structure of the review was informed by the Scale for the Assessment of Narrative Review Articles (SANRA). SANRA assesses six domains: justification of the review's importance, statement of aims, description of the literature search, referencing, scientific reasoning, and presentation of relevant endpoint data.⁵

➤ *Information Sources*

The following electronic databases were searched:

- PubMed/MEDLINE
- PEDro
- ScienceDirect
- Google Scholar
- Cochrane Library

Additional relevant articles were identified through reference-list screening of key systematic reviews and meta-analyses.

➤ *Search Period*

The primary search focused on literature published from January 2015 to August 2026.

Earlier studies were considered when they represented important foundational evidence or were directly relevant to postoperative breast cancer rehabilitation.

➤ *Search Terms*

The following keywords and combinations were used:

- "Modified Radical Mastectomy"
- "Breast Cancer Surgery"
- "Mastectomy"
- "Physiotherapy"
- "Physical Therapy"
- "Rehabilitation"
- "Exercise Therapy"
- "Shoulder Dysfunction"
- "Shoulder Range of Motion"
- "Upper Limb Function"
- "Scapular Strengthening"
- "Postmastectomy Pain"
- "Lymphedema"
- "Quality of Life"

➤ *Eligibility Criteria*

Studies were considered eligible when they:

- Included adult women following breast cancer surgery or mastectomy;
- Evaluated physiotherapy, physical therapy, exercise, or rehabilitation;
- Reported at least one clinically relevant outcome;
- Were randomized controlled trials, controlled clinical trials, systematic reviews, meta-analyses, or relevant narrative reviews;
- Were published in English or had sufficient English-language information for interpretation.

Studies were excluded when they:

- Were unrelated to postoperative breast cancer rehabilitation;
- Focused exclusively on non-surgical cancer populations;
- Did not report a rehabilitation-related outcome;
- Were conference abstracts without sufficient methodological information;
- Were duplicate publications.

➤ *Evidence Synthesis*

Because this was a narrative review, formal quantitative pooling of studies was not performed.

The evidence was synthesized under the following themes:

- Shoulder ROM;
- Pain;
- Muscle Strength;
- Upper-Limb Function;
- Scapular Dysfunction;
- Lymphedema;
- Posture and Chest-Wall Mobility;
- Quality of Life; and
- Overall Functional Recovery.

Greater emphasis was placed on recent systematic reviews, meta-analyses, and MRM-specific controlled trials.

➤ *Postoperative Impairments Following Modified Radical Mastectomy*

• *Shoulder Range-of-Motion Limitation*

Shoulder dysfunction is among the most frequently discussed physical impairments following breast cancer surgery.

Restriction may occur in:

- ✓ Flexion;
- ✓ Abduction;
- ✓ External Rotation;
- ✓ Internal Rotation.

Possible contributing factors include postoperative pain, axillary tissue disruption, scar formation, protective movement, muscle inhibition, soft-tissue tightness, radiotherapy-related changes, and reduced physical activity.

Reduced shoulder ROM can interfere with overhead reaching, dressing, grooming, bathing, lifting, and occupational activities.

A 2024 meta-analysis involving 25 RCTs demonstrated significant improvements in shoulder flexion and abduction following physical exercise in postoperative breast cancer patients.¹

➤ *Physiotherapy Interventions*

• *Early Mobility and ROM Exercises*

Early rehabilitation commonly includes gentle upper-limb movement according to surgical and medical precautions.

Interventions may include:

- ✓ Hand and Wrist Movements;
- ✓ Elbow Flexion and Extension;
- ✓ Gentle Shoulder Flexion;
- ✓ Shoulder Abduction;
- ✓ External Rotation;
- ✓ Pendular Exercises;
- ✓ Active-Assisted Rom;
- ✓ Wall Climbing;
- ✓ Scapular Mobility.

The purpose is to minimize unnecessary immobilization while respecting tissue healing.

The 2022 systematic review by Redemski et al. evaluated early versus delayed ROM following breast cancer surgery. The authors reported that contemporary evidence suggested early exercise could improve ROM, without clear evidence of adverse effects on wound outcomes. However, certainty of evidence was generally low to very low.³

Therefore, early movement should be clinically individualized, rather than universally prescribed at an identical time point for every patient.

➤ *Effects on Shoulder Range of Motion*

The strongest contemporary evidence supports exercise for improving postoperative shoulder mobility.

Xu et al. included 20 studies comprising 25 RCTs and 2,171 patients in a 2024 systematic review and meta-analysis. Physical exercise significantly improved:

- Shoulder Flexion: SMD 0.59, 95% CI 0.32–0.86;
- Shoulder Abduction: SMD 1.01, 95% CI 0.43–1.60;
- Upper-Limb Function: SMD 0.87, 95% CI 0.48–1.26.¹

The review also suggested that intervention frequency, duration, and timing may influence outcomes. Comprehensive exercise performed up to three times per week and programs lasting approximately 8–12 weeks were particularly associated with improvements in shoulder flexion.¹

These findings support progressive exercise as a central component of postoperative physiotherapy.

➤ *Pain Following Modified Radical Mastectomy*

Pain may restrict active movement and contribute to a cycle of disuse, stiffness, weakness, and functional limitation.

Physiotherapy approaches for pain may include:

- Therapeutic Exercise;
- Gentle ROM;
- Progressive Strengthening;
- Postural Correction;
- Breathing Exercises;
- Relaxation;
- Scar Management After Adequate Healing;
- Education and Graded Activity.

Lin et al. reported that aerobic exercise significantly reduced pain intensity following breast cancer surgery.²

Exercise may therefore provide benefits beyond mobility by facilitating gradual restoration of normal upper-limb use.

➤ *Muscle Strength*

Muscle weakness following MRM may result from reduced activity, pain-related inhibition, altered biomechanics, and prolonged avoidance of upper-limb loading.

A progressive strengthening program may include:

- Scapular Stabilizer Exercises;
- Rotator-Cuff Strengthening;
- Deltoid Strengthening;
- Resistance-Band Exercises;

- Elbow and Forearm Strengthening;
- Functional Resistance Exercises.

Resistance should be progressed gradually according to symptoms, tissue healing, functional requirements, and overall medical status.

The 2023 systematic review by Lin et al. found improvements in muscle strength following exercise interventions, including improvements in shoulder flexion and abduction strength.²

➤ *Scapular Strengthening*

Scapular dysfunction can contribute to impaired shoulder mechanics following breast surgery.

Rehabilitation may target:

- Middle Trapezius;
- Lower Trapezius;
- Serratus Anterior;
- Rhomboids;
- Rotator Cuff;
- Scapular Stabilizers.

A 2023 controlled clinical trial specifically evaluated scapular strengthening following MRM. Mohite and Kanase reported improvements in pain, functional disability, and shoulder ROM following a scapular-strengthening program.⁴

This study is particularly relevant because it directly investigated women following **modified radical mastectomy**, rather than combining all breast cancer surgical populations.

➤ *Upper-Limb Functional Recovery*

The ultimate objective of physiotherapy is functional recovery rather than improvement in isolated ROM values.

Upper-limb function may be assessed through:

- Disabilities of the Arm, Shoulder and Hand (DASH);
- Shoulder Pain and Disability Index (SPADI);
- Functional Independence Measure;
- Patient-specific functional measures;
- Performance of activities of daily living.

The 2024 meta-analysis reported a significant improvement in upper-limb function following exercise.¹

Lin et al. similarly reported reduced upper-limb dysfunction following aerobic and resistance-based exercise.²

These findings support progression from impairment-based exercises toward task-specific functional activities.

➤ *Breast Cancer-Related Lymphedema*

Breast cancer-related lymphedema (BCRL) is an important complication associated particularly with axillary lymph-node procedures and radiotherapy.

Clinical manifestations may include:

- Upper-Limb Swelling;
- Heaviness;
- Tightness;
- Discomfort;
- Reduced ROM;
- Reduced Strength;
- Functional Limitation;
- Psychological Distress.

Physiotherapy management can include:

- Therapeutic Exercise;
- Resistance Training;
- Aerobic Exercise;
- Compression Therapy;
- Manual Lymphatic Techniques;
- Skin Care;
- Self-Management Education;
- Monitoring of Limb Volume and Symptoms.

Contemporary evidence increasingly supports exercise rather than prolonged avoidance of upper-limb loading.

A 2026 systematic review and meta-analysis included 31 studies and 4,323 participants and investigated physical therapy interventions for prevention and treatment of postoperative BCRL.⁶

A 2026 umbrella review and systematic review/meta-analysis also found strong evidence that exercise improves upper- and lower-body strength and upper-limb disability in individuals with BCRL or at risk of BCRL.⁷

A 2025 systematic review and network meta-analysis evaluated 83 RCTs and found that different physical therapy interventions produced different effects across lymphedema volume, quality of life, pain, and other outcomes, emphasizing the importance of individualized treatment selection.⁸

➤ *Exercise and Safety in Lymphedema*

Historically, patients at risk of lymphedema were sometimes advised to avoid resistance exercise. Current evidence does not support blanket avoidance of exercise.

The contemporary literature supports appropriately progressed exercise, including resistance training, for patients with or at risk of BCRL.⁷

Exercise prescription should nevertheless be individualized according to:

- Current Lymphedema Status;
- Symptoms;
- Treatment History;
- Compression Requirements;
- Exercise Tolerance;

- Comorbidities;
- Patient Goals.

➤ *Postural Rehabilitation*

Following mastectomy, patients may adopt protective postures involving:

- Shoulder Protraction;
- Rounded Shoulders;
- Thoracic Flexion;
- Asymmetrical Upper-Limb Positioning.

Postural rehabilitation may include:

- Thoracic Extension Exercises;
- Pectoral Stretching;
- Scapular Retraction;
- Scapular Stabilization;
- Ergonomic Education;
- Breathing Exercises;
- Functional Movement Retraining.

Although postural outcomes are less extensively studied than ROM and upper-limb function, addressing posture is clinically relevant because it may influence shoulder mechanics and movement confidence.

➤ *Scar and Soft-Tissue Management*

Following complete wound healing, scar management may be considered when scar restriction contributes to reduced mobility.

Potential interventions include:

- Scar Mobilization;
- Soft-Tissue Mobilization;
- Chest-Wall Stretching;
- Desensitization;
- Active Mobility Exercises.

These interventions should be introduced according to wound-healing status and medical clearance.

Because the evidence base for isolated manual therapy is less extensive than that for exercise, scar management is

best considered as an adjunct to an active rehabilitation program rather than a replacement for therapeutic exercise.

➤ *Respiratory Physiotherapy*

Pain and protective posture may temporarily alter thoracic movement following breast surgery.

Breathing interventions may include:

- Diaphragmatic Breathing;
- Thoracic Expansion;
- Segmental Breathing;
- Relaxation Techniques;
- Supported Coughing When Clinically Indicated.

Breathing exercises may also be incorporated into early mobility and relaxation programs.

However, compared with shoulder mobility and exercise outcomes, evidence specifically evaluating respiratory physiotherapy following MRM remains comparatively limited.

➤ *Quality of Life*

Breast cancer treatment affects physical, psychological, social, and occupational functioning.

Physiotherapy may improve quality of life indirectly through:

- Pain Reduction;
- Improved Mobility;
- Improved Strength;
- Improved Upper-Limb Function;
- Increased Physical Activity;
- Improved Confidence in Movement;
- Restoration of Independence.

The magnitude of quality-of-life improvement varies between studies because interventions, treatment duration, disease characteristics, and measurement instruments differ.

Recent lymphedema evidence also suggests that exercise-based interventions may improve functional outcomes and selected quality-of-life domains.^{7,8}

Table 1 Summary of Physiotherapy Outcomes

Outcome	Expected effect of physiotherapy	Current evidence
Shoulder flexion	Improvement	Strong recent evidence
Shoulder abduction	Improvement	Strong recent evidence
Shoulder rotation	Improvement	Supported by exercise studies
Pain	Reduction	Supported by meta-analysis and trials
Muscle strength	Improvement	Supported by exercise evidence
Upper-limb function	Improvement	Strong recent evidence
Scapular dysfunction	Improvement possible	MRM-specific controlled evidence
Lymphedema	Prevention/management possible	Increasing evidence
Posture	Potential improvement	Clinically relevant; limited direct evidence
Quality of life	Potential improvement	Variable evidence
Functional independence	Improvement expected	Supported indirectly by functional outcomes

III. DISCUSSION

The evidence synthesized in this narrative review supports physiotherapy as an important component of rehabilitation following MRM.

The most consistent evidence relates to improvement in shoulder mobility and upper-limb function. The 2024 systematic review and meta-analysis provides particularly strong contemporary evidence, demonstrating significant improvements in shoulder flexion, abduction, and upper-limb function following physical exercise.¹

These findings are clinically important because shoulder ROM and upper-limb function are directly associated with activities of daily living. An improvement in ROM may allow patients to dress, groom, reach overhead, and perform household and occupational activities more effectively.

The evidence also supports the use of progressive strengthening. Muscle weakness can persist when patients are fearful of loading the operated limb. Appropriate progressive resistance exercise can counteract deconditioning and improve functional capacity. Recent evidence in BCRL populations further supports resistance exercise rather than routine avoidance of upper-limb loading.⁷

The timing of rehabilitation remains an important clinical consideration. Evidence from the 2022 review indicates that early ROM can improve mobility without clear evidence of adverse effects on wound outcomes, although the certainty of the available evidence was low to very low.³

Therefore, the available evidence does not justify a universal delay in shoulder movement. Instead, exercise should be initiated according to surgical instructions, wound status, drain management, pain, and individual clinical presentation.

The MRM-specific evidence concerning scapular strengthening is particularly relevant. Mohite and Kanase demonstrated improvements in shoulder dysfunction following targeted scapular strengthening, supporting the concept that rehabilitation should address scapular mechanics rather than focusing exclusively on glenohumeral ROM.⁴

Lymphedema represents another major consideration. Recent evidence demonstrates that appropriately prescribed exercise can improve strength and upper-limb disability in patients with BCRL or at risk of developing BCRL.⁷ The 2026 systematic review and meta-analysis of physical therapy interventions further emphasizes the potential role of physiotherapy in prevention and treatment.⁶

Overall, the literature favors an active, progressive, individualized rehabilitation model rather than prolonged protective immobilization.

IV. CLINICAL IMPLICATIONS

Based on the evidence reviewed, physiotherapy following MRM should incorporate:

➤ *Assessment*

- Pain;
- Shoulder ROM;
- Muscle Strength;
- Scapular Movement;
- Posture;
- Upper-Limb Function;
- Edema/Lymphedema;
- Scar Mobility;
- Quality Of Life;
- Functional Goals.

➤ *Early rehabilitation*

- Breathing Exercises;
- Distal Upper-Limb Movements;
- Gentle Shoulder ROM;
- Scapular Mobility;
- Patient Education.

➤ *Intermediate rehabilitation*

- Active ROM;
- Stretching;
- Scapular Stabilization;
- Progressive Strengthening;
- Postural Correction;
- Functional Training.

➤ *Advanced rehabilitation*

- Progressive Resistance Training;
- Aerobic Conditioning;
- Task-Specific Activities;
- Occupational/Work-Related Activities;
- Return To Recreational Activity.

➤ *Lymphedema management*

- Education;
- Exercise;
- Compression Where Indicated;
- Skin Care;
- Symptom Monitoring;
- Individualized Physiotherapy.

The rehabilitation program should be modified according to the patient's surgical procedure, healing status, adjuvant treatment, symptoms, and goals.

V. LIMITATIONS OF THE EVIDENCE

Several limitations should be acknowledged.

First, many studies investigate breast cancer surgery as a broad category rather than MRM specifically. Therefore, evidence from mixed surgical populations may not be directly generalizable to every MRM patient.

Second, physiotherapy protocols vary considerably with respect to intervention type, duration, intensity, frequency, and timing.

Third, studies use different outcome measures for pain, ROM, upper-limb disability, lymphedema, and quality of life, making direct comparison difficult.

Fourth, long-term follow-up is inconsistent.

Finally, this article is a narrative review and does not provide a formal quantitative synthesis of all available studies. Consequently, conclusions should be interpreted as a clinical synthesis rather than as pooled estimates of treatment effectiveness.

VI. FUTURE DIRECTIONS

Future studies should specifically investigate patients undergoing MRM rather than combining all breast cancer surgeries.

➤ *Research should:*

- Use standardized physiotherapy protocols.
- Clearly report intervention timing.
- Define exercise intensity and progression.
- Use validated shoulder ROM measurements.
- Include objective strength assessment.
- Use validated upper-limb disability scales.
- Standardize lymphedema assessment.
- Include patient-reported quality-of-life outcomes.
- Monitor adherence to home exercise.
- Include long-term follow-up.
- Compare individualized rehabilitation with conventional care.
- Investigate the optimal dosage and timing of progressive resistance training.

Future research should also examine whether patients undergoing axillary lymph-node dissection, radiotherapy, or combined treatment require different rehabilitation pathways.

VII. CONCLUSION

Physiotherapy is an important component of multidisciplinary rehabilitation following modified radical mastectomy. Patients may experience pain, restricted shoulder ROM, weakness, scapular dysfunction, impaired upper-limb function, lymphedema, postural changes, and reduced quality of life following surgery.

Current evidence supports exercise-based rehabilitation as the central component of postoperative physiotherapy. Physical exercise can improve shoulder flexion, shoulder abduction, and upper-limb function, while aerobic and resistance exercise may improve pain and muscle strength.^{1,2}

Early ROM can be considered when clinically appropriate, with contemporary evidence suggesting potential benefits for mobility without clear evidence of harm to most wound outcomes.³ MRM-specific evidence additionally supports scapular strengthening for improving shoulder dysfunction.⁴

Contemporary evidence concerning BCRL also supports appropriately prescribed exercise and physiotherapy rather than routine avoidance of upper-limb loading.⁶⁻⁸

Therefore, physiotherapy following MRM should be individualized, progressive, evidence-informed, and function-oriented, with rehabilitation extending beyond the immediate postoperative period into long-term survivorship care.

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