

1st Annual MSKCC Cancer Rehabilitation Symposium

**Breast Reconstruction Pain Syndrome:
Rehabilitation Assessment and Treatment**


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Objectives

- Identify major post surgical impairments
- Understand physical therapy treatment for breast reconstruction pain syndrome
- Know when referral to physical therapy is appropriate



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Major Impairments

Status post SURGERY

- Pain
- Scarring and fascial adhesions
- Decreased ROM
- Muscle weakness
- Abnormal shoulder mechanics

**LONG TERM
SHOULDER
IMPAIRMENT**

Role of Physical Therapy


Post-Surgical Restrictions

Surgery	Shoulder ROM restriction (2 wks)	Lifting Restriction – 5lb (six weeks)
Mastectomy	No restriction	No restriction
Tissue Expander	90°	Yes
Pedicle TRAM	90°	Yes
Free TRAM (internal mammary artery)	90°	Yes
Free TRAM (thoracodorsal artery)	45	Yes
Latissimus flap	60	Yes

Physical Therapy Post-Op


- Post-op breast classes
- Inpatient
- ROM return in 6 wks

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Outpatient Physical Therapy

- May initiate earlier if...
 - ROM is needed for RT
 - Pt is not progressing as expected

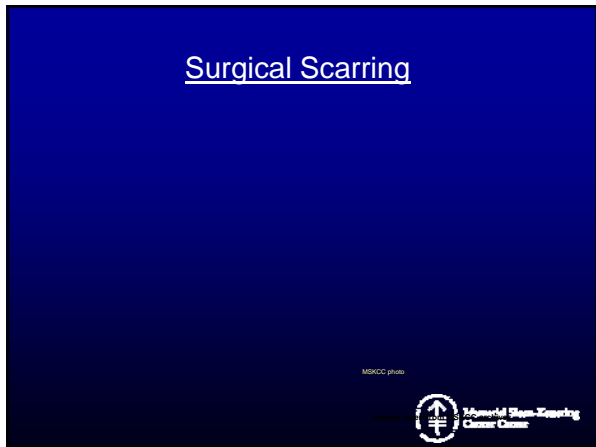


Surgical Scarring

- Areas of most prominent restriction
 - Anterior chest wall
 - Donor site
 - Axillary tightness (often no visible scar) ⁽¹⁾
 - Drain site










Surgical Scarring

- Drain site is a common area of discomfort
- Scar tissue mobilization
- Taping

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Myofascial Impairments (2)

- Deep fascia
- Superficial fascia


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Myofascial Impairments

- Nerve entrapment
- Limited ROM

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Myofascial Impairments

- Pectoralis major fascia continuous with serratus anterior
- Fascial restrictions can be seen distant from site of surgery



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Treatment of Soft Tissue Restriction

- Begin with minimal pressure
- Progress to deep firm pressure as tolerable
- Cross friction massage (drain, axillary, donor site)
- Skin rolling and unwinding
- Stretching – PROM, AAROM, AROM



Treatment of Soft Tissue Restriction

- Indirect movement to stretch across breast



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Stretching is Key



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Decreased Rib Mobility

- Mobilization of first rib
- Rib expansion exercises



Soft Tissue Mobilization


- Dycem



Surgical Implications

- Lymph nodes and surrounding tissue
- Deep and superficial fascial dissection


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Assess Upper Quadrant for Fascial Restriction


- Latissimus dorsi
- Pectoral minor and major
- Serratus anterior
- Teres major and minor
- Abdominal area

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Axillary Web Syndrome

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Axillary Web Syndrome ⁽³⁾⁽⁴⁾

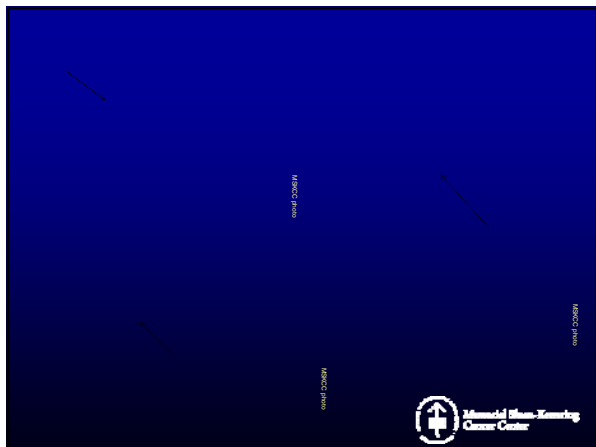
- Palpable cords
- Pain in axilla
- Pain with shoulder abduction
- Can extend from axilla to wrist




Axillary Web Syndrome

- Interrupted axillary lymphatics
- Fibrosed lymphatics
- Damage to veins due to thrombophlebitis
- Axillary scarring
- 'Cording'






The diagram shows a blue background with several thin, dark lines representing cords. Some lines are labeled 'lymphatic' and others 'vein'. The cords are arranged in a way that suggests they are interconnected or branching. At the bottom right, there is a logo for Memorial Sloan-Kettering Cancer Center.




Treatment of Cording

- Handled much like scar tissue
- Stretching
- Myofascial release
- Cross friction massage




Shoulder ROM Dysfunction

- Flexion (180°)
- Abduction (180°)
- Internal Rotation (70°)
- External Rotation (90°)




Scapulohumeral Rhythm ⁽⁵⁾/₍₆₎

- Initial 30° largely glenohumeral motion
- After first 30° glenohumeral and scapulothoracic joint move in 2:1 ratio




Scapulohumeral Rhythm (7)

- Complex movement
- Glenohumeral joint
- Scapulothoracic joint
- Acromioclavicular joint




Musculoskeletal Changes After Breast Surgery^{8,9,10}

Narrowing of costoclavicular space
Narrowing of space under the pec minor and coracoid process




May lead to thoracic outlet syndrome


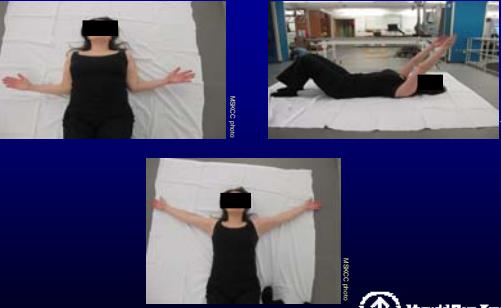


Abnormal Scapulohumeral Rhythm

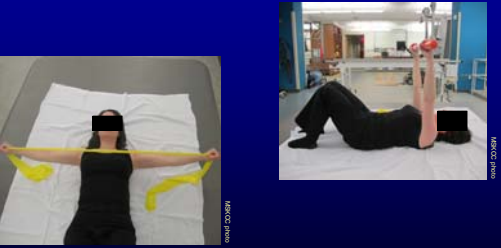
- Immobile pec major
- Tight pec minor



Exercises – Begin in Supine




Exercises - Progress to Resisted (Supine)



Lat Flap

- Most often loss of power in arm
- Patients able to compensate with other muscles
- Difficult to return to sports such as golf, tennis and swimming at pre surgical levels



Free/Muscle Sparing TRAM


Pre-operative Post-operative



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TRAM

- Strengthening of supporting abdominal muscles
- Find pelvic neutral
- Visceral therapy



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Core Strengthening



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Abdominal Strengthening

- Isometrics
- Transversus activation
- Pelvic tilts



Capsular Contracture

- Fibrous tissue surrounds implant
- Capsule may tighten & contract around implant
- Distorts appearance of implant




Baker Grading of Capsular Contracture (1)

Grade 1	Breast is soft and looks natural
Grade 2	Breast is a little firm but appears natural
Grade 3	Breast is firm, slight shape distortion
Grade 4	Breast is hard, distorted, painful




Capsular Contracture

- Difficult to treat conservatively when it has set in (Grade 3 to 4)
- Best dealt with early on when Grade 1 or 2
- Teach manual techniques around breast
- Teach costal expansion
- ROM gives a fascial stretch
- No closed capsulotomy




Capsular Contracture




Radiation Fibrosis Syndrome

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Radiation Fibrosis Syndrome

- Lymphatic drainage
- Effleurage
- Dycem for self-skin mobilization
- Stretching



Conclusion

- Early rehab is key
- Assess entire upper quarter
- Be aware of patient history



Thank You!



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