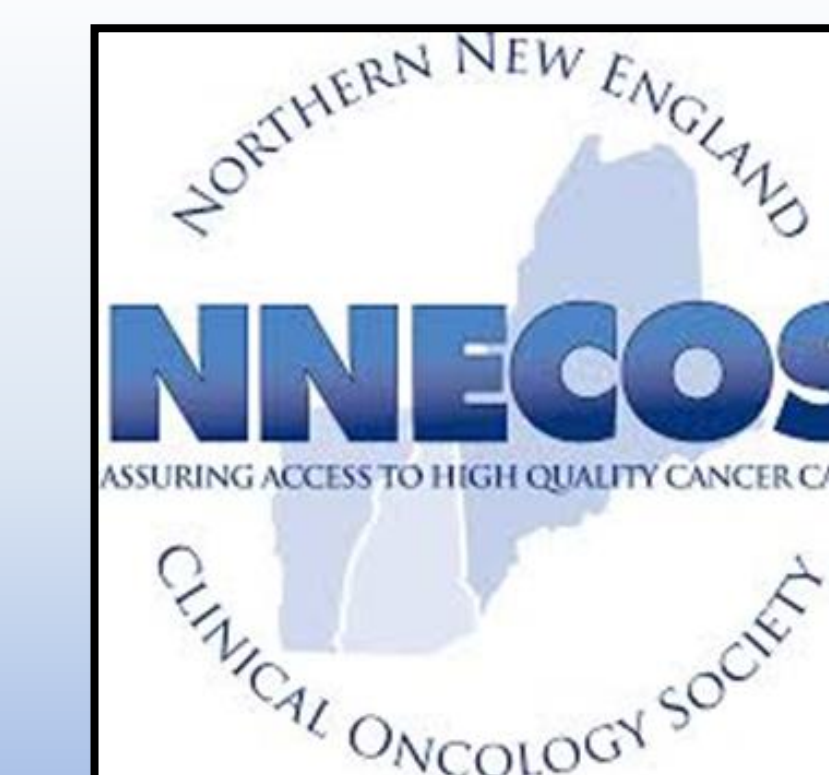


Comprehensive Physical Therapy Management of a Patient with Decreased Shoulder Function and a History of Breast, Lung, and Oral Cancer: A Case Report

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Background and Purpose

- Multiple primary cancers are uncommon in the same individual with an incidence rate of 2-17%.¹
- Surgery, chemotherapy, endocrine therapy, and radiation may result in immediate and/or long-term effects on the musculoskeletal, cardiopulmonary, nervous, and integumentary systems potentially resulting in decreased functional mobility and quality of life (QOL) for the individual.^{2,3}
- The purpose of this case report was to describe a comprehensive physical therapy (PT) plan using manual therapy and therapeutic exercises in the management of decreased shoulder function for a patient with a history of breast, lung, and oral cancers.

Background of Cancer History

Region	Right Breast	Right Lung	Root of Tongue
Pathology	Invasive ductal adenocarcinoma	Non-small cell carcinoma	Non-small cell carcinoma
Staging	Ia	IIla	III
Surgery	Lumpectomy; Lymph Node Biopsy	Lobectomy of Right Upper and Middle Lobes	Biopsy
Radiation Oncology	External Beam Radiation	External Beam Radiation	External Beam Radiation
Medical Oncology	Chemotherapy: Carboplatin and Paclitaxel	Chemotherapy: Carboplatin and Paclitaxel	Cisplatin

Case Description

- 71-year-old married female, retired nurse

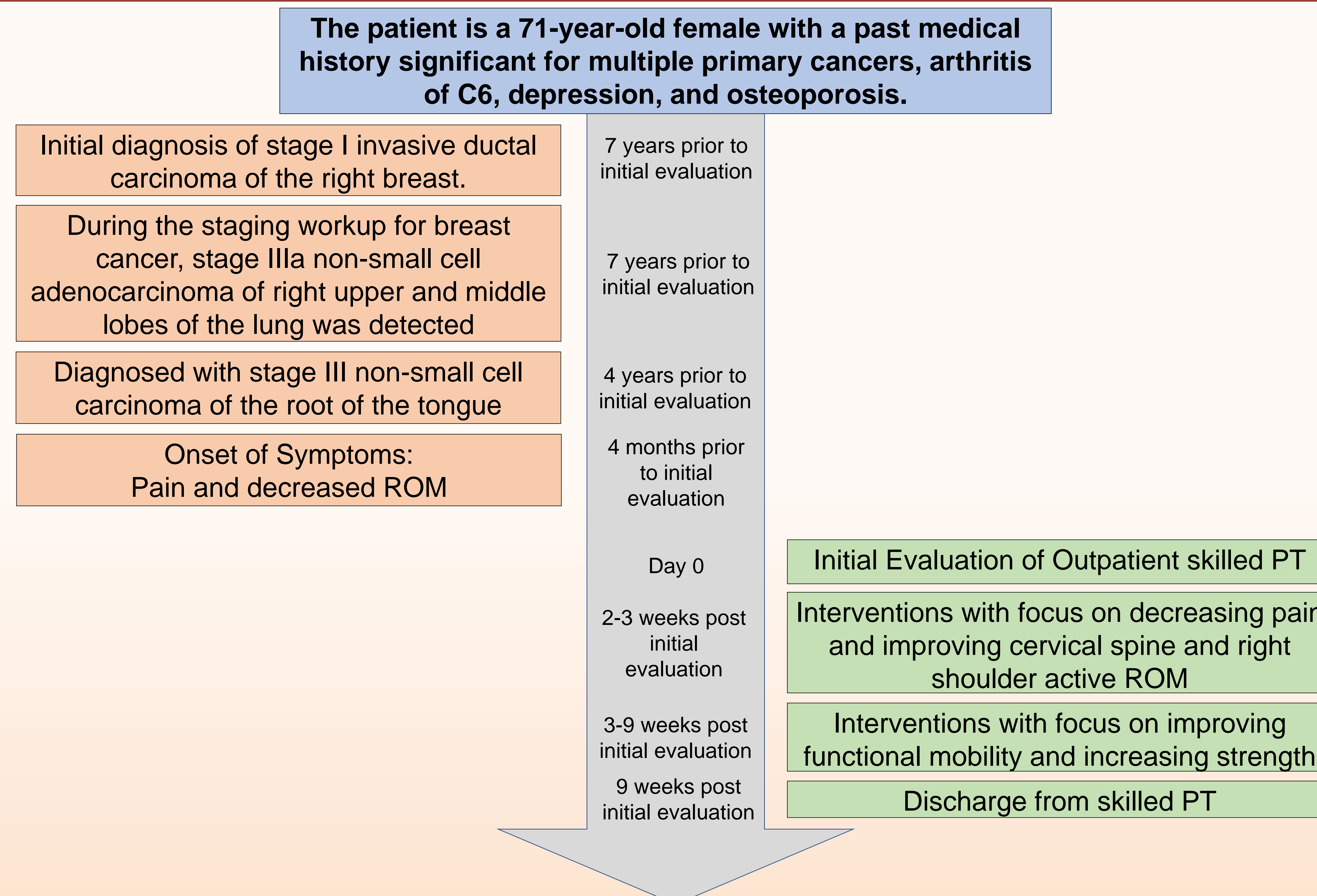
PMH:

- Osteoarthritis of C6, depression, and osteoporosis.
- Prior smoking history (approximately two packs per week for 25 years) but quit after breast and lung cancer diagnoses.

Main Concerns:

- Decreased range of motion (ROM) of her right upper extremity (RUE) and neck, decreased strength in her RUE, and constant sharp pain in her neck and RUE affecting her ability to complete activities of daily living.

Episode of Care Timeline



Following discharge, she planned to continue exercising and work with a personal trainer at the facility.

Interventions

Figure 1. Progression of Treatment

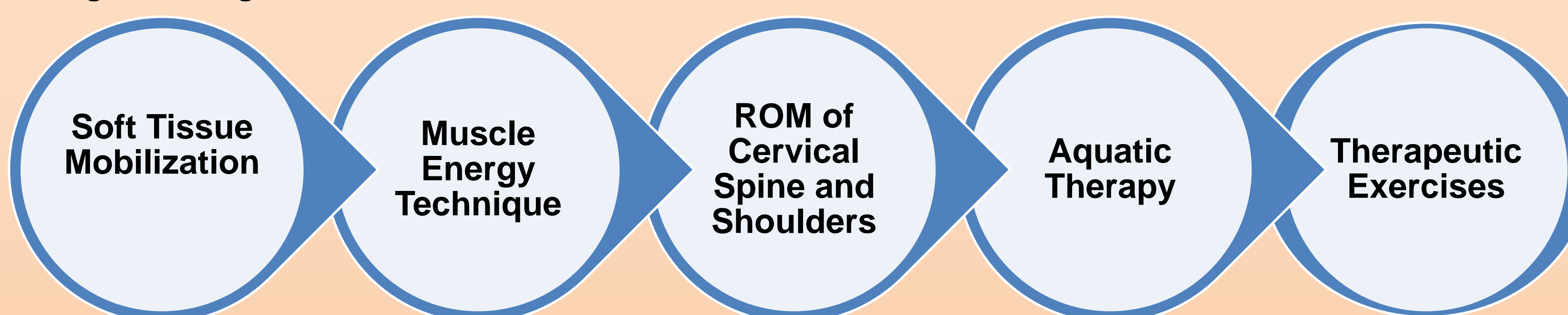


Figure 3. Therapeutic Exercises

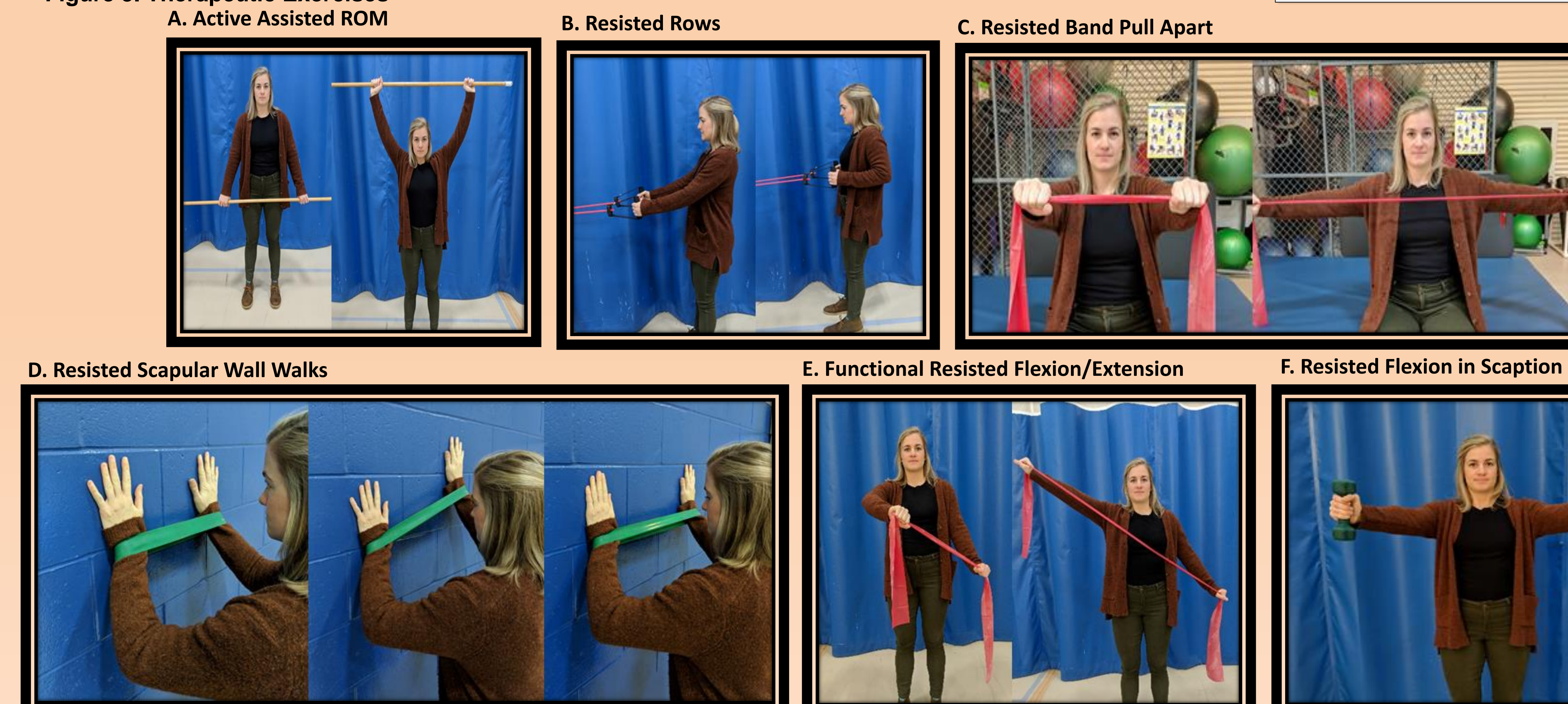


Figure 2. Home Exercise Program

- Cervical Spine ROM
- Daily use of RUE to promote function and decrease pain.
- Functional exercises to improve strength of RUE

Outcomes

Figure 4: Performance-Based and Patient Reported Outcomes

	Initial Evaluation		Discharge	
Cervical Spine: Active Range of Motion				
Flexion	23°		60°	
Extension	15°*		22°	
Sidebend	Right: 19°*/ Left: 6°*		Right: 24°*/ Left: 15°*	
Rotation	Right: 46°/ Left: 44°*		Right: 43°/ Left: 49°*	
Shoulder: Active Range of Motion				
	Right	Left	Right	Left
Flexion	146°*	147°	155°	147°
Extension	79°*	78°	79°	78°
Abduction	141°*	159°	143°*	159°
Horizontal Adduction	35°*	35°*	41°*	35°*
IR	68°*	78°	79°	78°
ER	68°	68°	78°	68°
Shoulder: Muscle Testing				
Flexion	4/5*	4+/5	4-/5*	4+/5
Abduction	3+/5*	4/5	4+/5	4+/5
IR	4-/5*	4+/5	4+/5	4+/5
ER	3+/5*	4/5	4+/5	4+/5
Patient Reported Outcomes				
Numeric Pain Rating Scale	R:6/10 - sharp and constant	M:6/10- sharp and constant	R: 0/10	M:1/10 - ache
UEFS	72/80		74/80	

Pain*: Degrees°; IR-internal rotation; ER-external rotation; UEFS-Upper Extremity Functional Scale; 3= fair; 4=good, R: At rest; M: With movement

Discussion

- The patient had improvements in strength, ROM, pain, and function over 9 visits.
- Patients tend to be physically inactive due to cancer and cancer treatment-related side effects.⁴
- Physical activity should be considered the cornerstone of every cancer survivors' life to increase QOL; however, there continue to be obstacles to patients receiving skilled PT and engaging in safe physical activity.^{5,6,7,8}
- The use of appropriate pathways to provide proper screening and referral to rehabilitation can potentially help mitigate future occurrences of late effects and impairments leading to decreased QOL for cancer survivors.^{6,7,8}

Limitations

Limitations to this case report were the inability to obtain a full pathological report, and exact details on radiation and chemotherapy treatment (i.e. dosages, frequency, etc.)

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