Multidisciplinary Approaches to Cancer Symposium

Rehabilitation for Patients with Breast Cancer

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Disclosures

- I do not have any relevant financial relationships.

This presentation and/or comments will provide a balanced, non-promotional, and evidence-based approach to all diagnostic, therapeutic and/or research related content.

Cultural Linguistic Competency (CLC) & Implicit Bias (IB)

STATE LAW:

The California legislature has passed Assembly Bill (AB) 1195, which states that as of July 1, 2006, all Category 1 CME activities that relate to patient care must include a cultural diversity/linguistics component. It has also passed AB 241, which states that as of January 1, 2022, all continuing education courses for a physician and surgeon **must** contain curriculum that includes specified instruction in the understanding of implicit bias in medical treatment.

The cultural and linguistic competency (CLC) and implicit bias (IB) definitions reiterate how patients' diverse backgrounds may impact their access to care.

EXEMPTION:

Business and Professions Code 2190.1 exempts activities which are dedicated solely to research or other issues that do not contain a direct patient care component.

The following CLC & IB components will be addressed in this presentation:

- *Considerations for how language and or ethnic background contributes to outcomes of rehabilitation when providers are not tailoring their care to the individual's needs.*
- *Disparities among patients with access to rehabilitation services versus those with insurance, language and or/geographical barriers.*

Objectives

- Discuss common rehabilitation needs in breast cancer
- Examine evidence-based rehabilitation interventions
- Explore a prospective surveillance model for lymphedema prevention
- Discuss effective treatment strategies for axillary web syndrome

Rehabilitation can be thought of both as a *general health strategy* and as *a set of interventions* focused on enabling persons at risk or with physical and/or mental health disabling conditions to achieve and maintain optimal functioning and to pursue the best health-related quality of life in their family and social context.

NCCN Survivorship Guidelines 2023

- Focus on the *vast and persistent* impact both the diagnosis and treatment of cancer have on the adult survivor
- It is appropriate to counsel on these impacts early in the treatment trajectory and at regular intervals thereafter
- Applicable to survivors across the continuum of care, including those on prolonged therapy, those with chronic cancers (e.g., metastatic disease), and long-term survivors

Long-Term Problems

- Cardiac Toxicity
- Anxiety, Depression, Trauma, Distress
- Cognitive Function
- Fatigue
- Lymphedema
- Hormone-Related Symptoms
- Pain
- Sexual Function
- Sleep Disorders

Preventive Health

- Healthy Lifestyles
  - Physical Activity
  - Nutrition and Weight Management
  - Supplement Use
- Immunizations and Infections

National Comprehensive Cancer Network, Inc., *NCCN Survivorship Guidelines* 1.2023

Rehab Needs

- After breast cancer treatment, as many as 90% of survivors report physical problems.
- A person's physical and psychological function before breast cancer surgery can impact post-operative function and recovery.
- Physical disability is one of the leading cause of distress in this population.
- The risk of psychological distress in individuals with cancer relates much more strongly to their level of disability than it does to the cancer diagnosis itself.
- Factors impacting quality of life identified in both early and late stage breast cancer: Fatigue, pain, return to work, sexuality, body image.
    - Most common referrals: Lymphedema, range of motion, pain

Banks, E., et. al., *Med J. Aust* 2010
Silver, J., et. al., CA *Cancer J Clin.* 2013
Beckjord, E.B et. al., *Journal of Psychosocial Oncology* 2014

Impact of Specialized Outpatient Breast Cancer Rehabilitation

- 2706 patients (PT, n = 2,245; OT, n = 461)
  - Average age 58
  - Attended approximately 10 sessions.
  - Needs included: muscle atrophy, weakness or ataxia, lymphedema, upper extremity impairment, pain and scar tissue or fibrosis.
- At discharge, all health, function and QOL-related outcomes improved significantly
  - Significant gains in PROMIS global physical health, global mental health, physical function and participation in social roles & activities were observed.
- Significant gains were reported for both PT and OT interventions.

Pergolotti, M. et. al., *Journal of Clinical Oncology* 2023

Rehabilitation Interventions Following Breast Cancer Treatment- Systematic Review

- Five rehabilitation areas identified:
  - Exercise and physical activity (PA)
  - Yoga
  - Lymphedema treatment
  - Psychosocial interventions
- The most solid evidence was found in exercise/PA and yoga.
- Exercise interventions improved outcomes such as shoulder mobility, lymphedema, pain, fatigue and quality of life (QoL).
- Effects of yoga were shown on QoL, anxiety, depression, sleep disturbance, fatigue and gastrointestinal symptoms.
- Among the lymphedema treatments, positive effects were seen for resistance training on volume reduction and muscle strength
- Psychosocial interventions such as cognitive behavioral therapy had positive effects on QoL, anxiety, depression and mood disturbance.

Olsson Moller, U., et. al., *BMC Cancer* 2019

Breast Cancer Rehab

Lymphedema

Lymphedema Incidence

- 1,815 patients with invasive breast cancer enrolled 2005- 2018
- Divided into 4 groups: SLNB alone, SLNB +RLNR, ALND alone, ALND +RLNR
- Perometer used to objectively measure limb volume pre op and post op > 3 months
- Lymphedema defined as ≥ 10% relative increase in volume
- Primary end point: BCRL rate across all groups

Lymphedema Incidence

- The cohort included 1,340 patients with SLNB alone, 121 with SLNB+RLNR, 91 with ALND alone, and 263 with ALND+RLNR

- 5-year cumulative incidence rates of BCRL were:
  - 30.1% ALND+RLNR
  - 24.9% ALND alone
  - 10.7% SLNB+RLNR
  - 8.0% SLNB alone

Lymphedema Risk Factors: Racial and Ethnic Disparities

- Prospective BCRL screening study of 276 patients
  - Breast surgery and unilateral ALND in the primary setting or after sentinel lymph node biopsy
  - 24-month lymphedema rate was 23.8%
  - Black race and Hispanic ethnicity had the greatest association with lymphedema development
  - Neoadjuvant chemo, older age and longer follow up were also associated with lymphedema development

Montagna, Giacomo, et. al., *JAMA Oncol* 2022

Lymphedema Risk Factors: Racial and Ethnic Disparities

- The Carolina Breast Study- Phase 3
  - 2645 patients, 552 self-reported lymphedema cases
  - Baseline at 5 mo- 7 yrs after diagnosis
  - Lymphedema prevalence:
    - Baseline: 6.8%
    - 2 Years: 19.9%
    - 7 years: 23.8%
  - Beginning approx. 10 mo after diagnosis younger Black women had the highest risk and older non-Black women had the lowest risk
  - Positive lymph node status, large tumor size (>5cm) and ER- as well as higher BMI, removal of 5+ nodes, mastectomy, chemo and radiation associated with increased risk

Ren, Yumeng, et. al., *Cancer* 2022

National Comprehensive Cancer Network®

NCCN Guidelines Version 1.2023
Survivorship

NCCN Guidelines Index
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Updates in Version 1.2023 of the NCCN Guidelines for Survivorship from Version 1.2022 include:

LATE EFFECTS/LONG-TERM PSYCHOSOCIAL AND PHYSICAL PROBLEMS

Lymphedema

SLYMPH-2

- Principles of Lymphedema
  - 1st bullet revised: "...acute or chronic condition. *It can impact any area of the body (eg, arms, legs, face, trunk, groin).*"
  - 2nd bullet revised: "...Symptoms including decreased range of motion or ~~strength~~ *function* and thickening of the skin..."
  - 6th bullet revised: "Early detection/diagnosis *and early referral are* ~~is~~ key for optimal lymphedema management because stages 0 and 1 are reversible, whereas stages 2 and 3 are less responsive to treatment. ~~Therefore, survivors should be told to inform their medical provider if subtle swelling or any other symptoms (eg, fullness, tightness, heaviness, pain) on the treated side are noted.~~ *Therefore, survivors at risk for lymphedema should be regularly screened for lymphedema by symptom assessment, clinical exam, and, if available, bioimpedance spectroscopy. Patients should be educated about early symptoms and signs of lymphedema including fullness, tightness, heaviness, and pain.*

using the following resource: https://www.clt-iana.org/therapists. *NCCN recommends attention to evidence-based practice and specialized training for lymphedema management.*

SLYMPH-B

- Principles of Physical Activity for Survivors with or at Risk for Lymphedema
  - 3rd bullet; Progressive strength training, 4th arrow sub-bullet revised:
    - "... and initiate exercises involving affected body part ~~only if lymphedema specialist or other appropriate health care provider determines that lymphedema is stable~~ *in consultation with a certified*

- Neuropathic pain
  - Treatment, General Measures, Pharmacologic, Non-opioid/Adjuvant analgesics revised: Antidepressants: SNRIs *(including duloxetine)*, TCAs, anticonvulsants
  - Footnote f is new: Duloxetine has the most evidence for treating neuropathic pain.
  - Footnote h revised: Initiating opioids in cancer survivors should be carefully considered ~~after failure of~~ *if* other interventions *are unsuccessful*. (Also for SPAIN-5 and SPAIN-7)

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NCCN Guidelines Version 1.2023
Survivorship: Lymphedema

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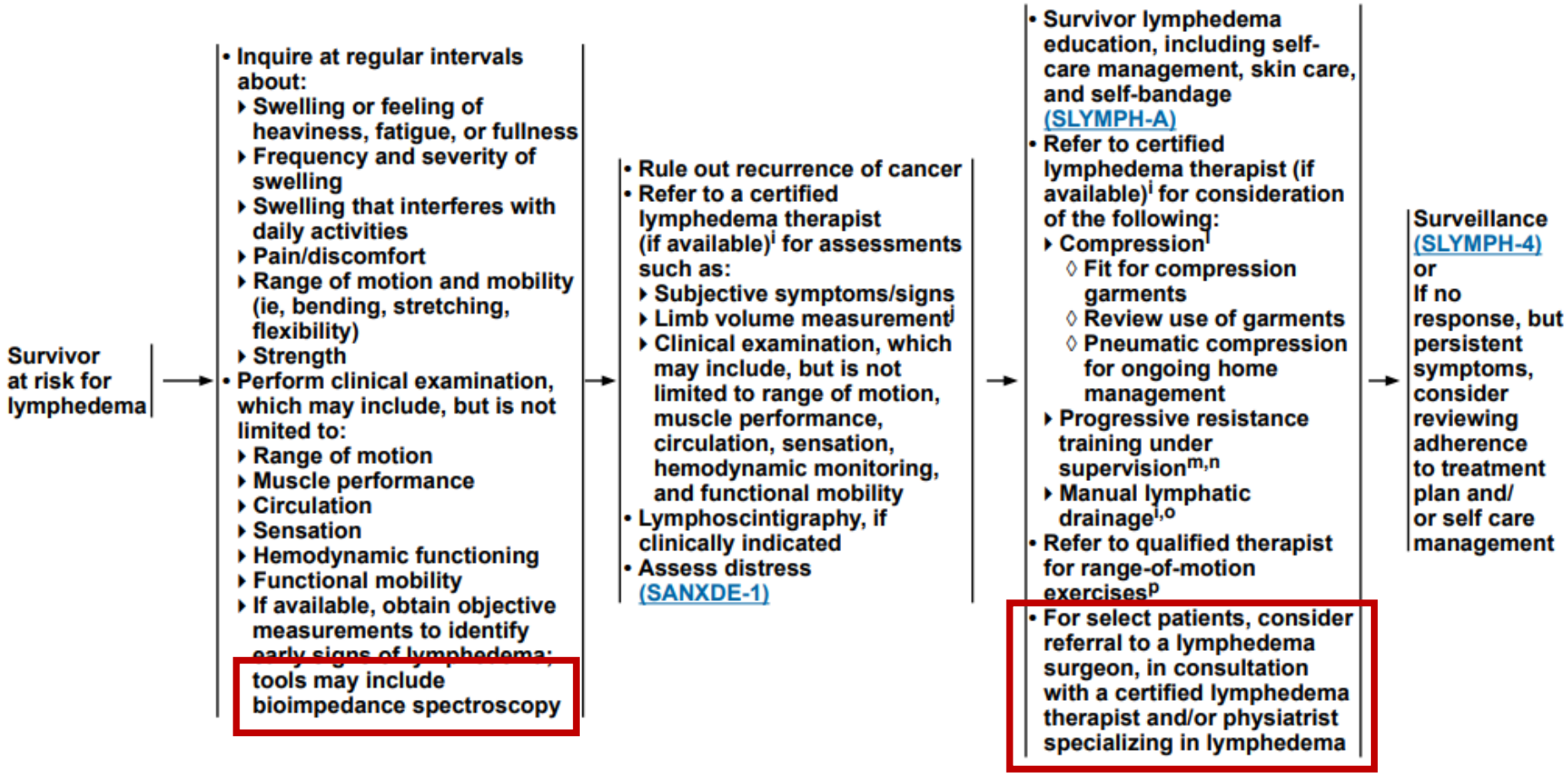


Bioimpedance Spectroscopy

- Utilizes the characteristics of frequency dependent current flow to quantify changes in extracellular fluid in the patient's limb
- Measures impedance over the entire spectrum of frequencies, rather than being limited to only 1 (BIA) or only a few (MFBIA) frequencies
- Compares how easily the electrical signal travels in the unaffected versus the affected (or at-risk) limb and generates an L-Dex value from this comparison
- Only device of its kind to detect sub- clinical Lymphedema

PREVENT Trial

- Enrollment began in 2014, patients followed for 3 years
- 10 participating sites in the United States and Australia
- 1,200 breast cancer patients with one or any combination of
  - Total mastectomy, axillary dissection, sentinel node biopsy of more than 6 nodes, radiation therapy to chest wall/breast or nodes, and/or taxane-based chemotherapy
- Subclinical Lymphedema detection triggered a 4-week, 12-hour per day, compression sleeve, and gauntlet intervention

Ridner,S. H, et al. *Lymphatic Research and Biology* 2022

PREVENT Trial

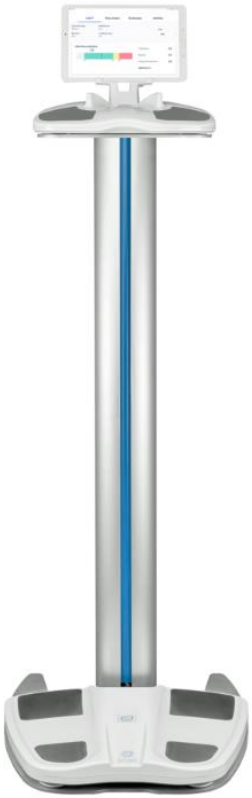
- Significantly fewer patients progressed to need complete decongestive therapy using early detection with L-Dex and intervention compared to tape measure (primary endpoint result)
  - Tape measure: 19.2% (23/120) vs. L-Dex: 7.9% (7/89)

- Significantly fewer patients triggered for intervention with L-Dex than with tape measure
  - Tape measure: 27.5% (120/437) vs. L-Dex 20.1% (89/442)

- A risk-adjusted analysis showed a benefit for L-Dex compared to tape measure for all groups at high risk for lymphedema

Ridner,S. H, et al. *Lymphatic Research and Biology* 2022

Prospective Surveillance Model



SOZO

- Pre- operative baseline
- Years 1-3: Every 3 months
- Years 4-5: Every 6 months
- Year 6+: Annually

Axillary Web Syndrome

Axillary Web Syndrome (AWS)

- Speculated that the cord is caused by a blockage in a vessel, lymphatic or venous, or by tightness in the surrounding tissue
- Both lymphatic and venous vessels identified, with more evidence suggesting lymphatic vessel involvement
- Up to 86% risk with ALND
- Occurs within 2-8 weeks following surgery though it has also been identified in patient's months to years after surgery
- Pain and pulling sensation with movement of the arm particularly shoulder abduction. Little to no pain at rest
- Appears to occur more often in patients with lower BMI

Koehler, L.A., et. al., *Breast Cancer: Targets and Therapy* 2019

Axillary Web Syndrome

A retrospective study of 354 women who underwent surgery and received rehab:

- The odds of AWS development were 73% greater for participants over the age of 60
- Women with AWS had 44% greater risk to develop lymphedema during the first postoperative year
- If AWS developed within the first postoperative month, women were almost 3 times more likely to develop lymphedema within the first 3 postoperative months compared with other women with AWS

Early postoperative prospective surveillance is needed for women over 60 due to high risk for AWS development and any women with AWS for increased risk of lymphedema development

Ryans, K et. al., *Supportive Care in Cancer* 2020

Axillary Web Syndrome- Treatment

- Prospective RCT including 96 women with AWS assigned to:
  - PT with manual lymph drainage and tailored arm exercises: Median nerve neurodynamic glide exercises with no neural loading (n=48)
  - Control: Standard arm exercises (n=48)
  - Both groups received treatment 3x/week for 3 weeks

- PT group showed significant improvements in self-reported pain intensity, shoulder AROM, shoulder disability, and physical and functional aspects of health- related quality of life at the primary and 3-month follow-ups

Torres-Lacomba, M., et. al., *Physical Therapy and Rehabilitation Journal* 2022

Rehab Utilization and Access

Utilization of Breast Cancer Rehab

- Less than 20% of older breast cancer survivors utilize cancer rehabilitation
- Factors that influence utilization:
  - Awareness of disability
    - Limited assessment
  - Coping styles
  - Comparison of cancer experience with others
  - Provider interaction
    - Symptoms are “normal” or “complaints”
  - Perceptions of cancer diagnosis
  - Social support
  - Cost of rehabilitation

Brick, R., et.al., *Supportive Care in Cancer* 2021

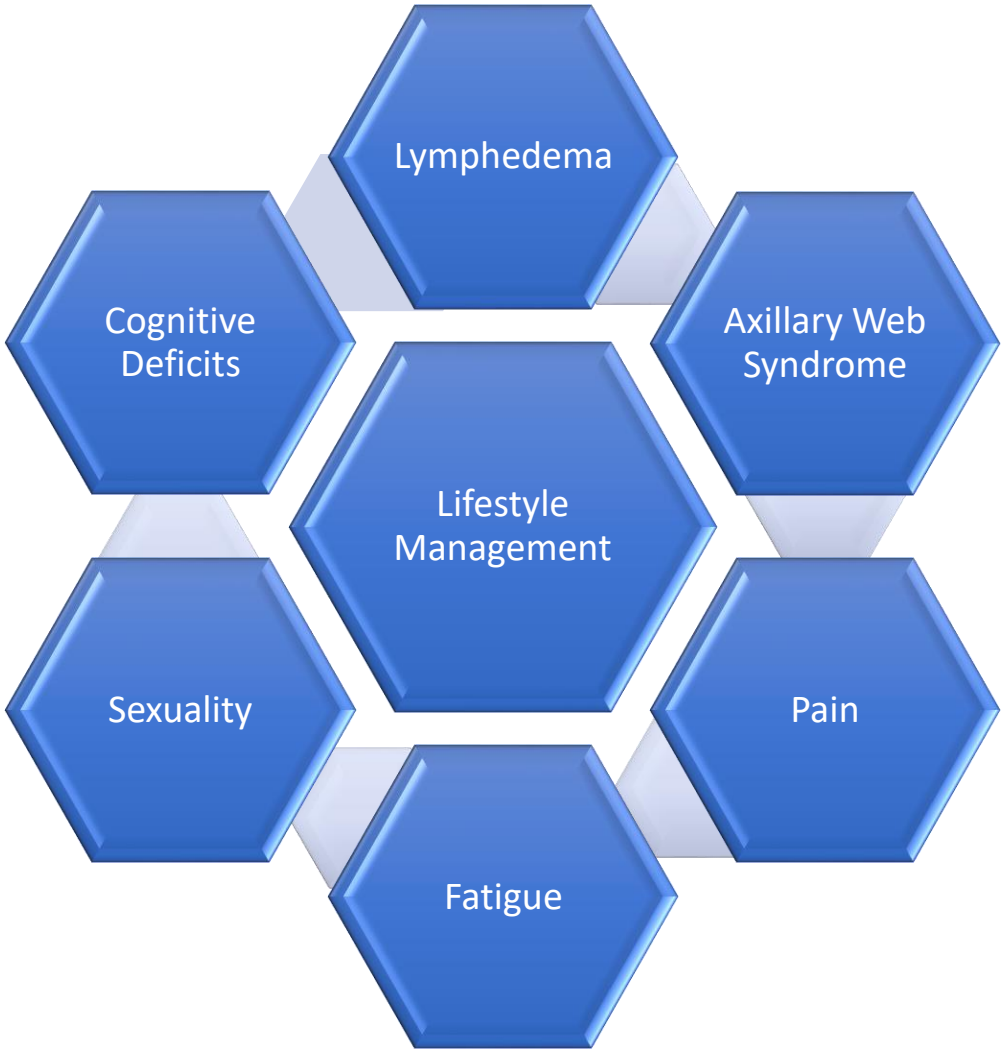
Access to Rehabilitation

- Geographical barriers
  - Transportation
- Cultural considerations
- Self-management
  - SES and lifestyle barriers
- Insurance Coverage
  - Medi-Cal
  - HMO's
  - Access to specialists

Optimizing Outcomes

- General recommendations
  - Tailor treatment to individual's values and priorities
- Exercise vs. physical activity
- In person vs. televideo appointments
- Referrals to general clinics
- Unmet psychosocial needs impact rehab outcomes

Breast Cancer Rehabilitation Program



Thank you