# "Lymphedema in Patients Treated for Breast or Head and Neck Cancer"

SHEILA H. RIDNER, PHD, RN
JIE DENG, PHD, RN

VANDERBILT UNIVERSITY SCHOOL OF NURSING

VANDERBILT-INGRAM CANCER CENTER

NASHVILLE, TN

#### **Background**

Primary Research in Cancer-related Lymphedema

- Breast
- Head and Neck





# Acknowledgements

Multiple funding sources contributed to work presented:

**American Cancer Society** 

Ridner-MRSG-07-012-01-CPPB

Shih-RSGTK-05-093-01-CPHPS

National Center for Research Resources-1UL-1RR024975

Vanderbilt University Nursing Research Fund

Vanderbilt University Post-Doctoral Research Fund

National Institute of Nursing Research-1-F31-NR07854-01

National Cancer Institute-1R01CA149113-01A1

**Oncology Nursing Foundation** 

Tactile Systems Technology, Inc.



- 20% 30% develop lymphedema in arms (Truncal statistics unknown)
  - Most by year 3
  - o 10% by year 2
- Influencing Factors
  - Socio-demographic Variables (Age, Income, Etc.)
    - Did not influence
  - Lymphedema Duration
    - **Did not influence**
  - Body Mass Index
    - Correlates with everything we measure
    - **■** Influences development (>30 BMI = 4 times more likely), arm size, and symptoms

# **Summary of Findings - Breast**

- Measurement of Arm / Symptoms / + Diagnosis
  - Tape measure and Perometer (infrared scanner) Both measure whole arm
    - **▼** Tape is inexpensive
    - × Perometer more accurate
  - Bioelectrical impedance (single and multifrequency) –
     Measures lymph fluid
    - **Earlier detection**
    - Self-measurement potential
  - Self-report of symptoms
    - **×** Tightness
    - **Heaviness**

- Co-existing Medical Problems / Medications
  - Orthopedic
    - × Neck and shoulder
    - **Arthritis**
    - **x** Fibromyalgia
  - Diabetes
  - Carpal Tunnel
  - Cardiac Medications
  - Hot Flash Medications
  - Osteoporosis Medications/Calcium Supplements

#### Symptoms

- Altered limb sensation
  - **Heaviness**
  - × Aching
  - **×** Hardness
  - **Tightness**
  - **X** Burning
  - ▼ Pins and Needles
  - × Swelling
  - Stabbing

- Loss of confidence in body
- Decreased physical activity
- Fatigue
- Psychological distress
  - o Sleep
  - Sexuality
  - Body Image
  - Sadness
  - Loss of "normal"
  - Marginalization by society

#### Function

- Modification of sport and leisure activities
- Overall function is likely similar to others of same age

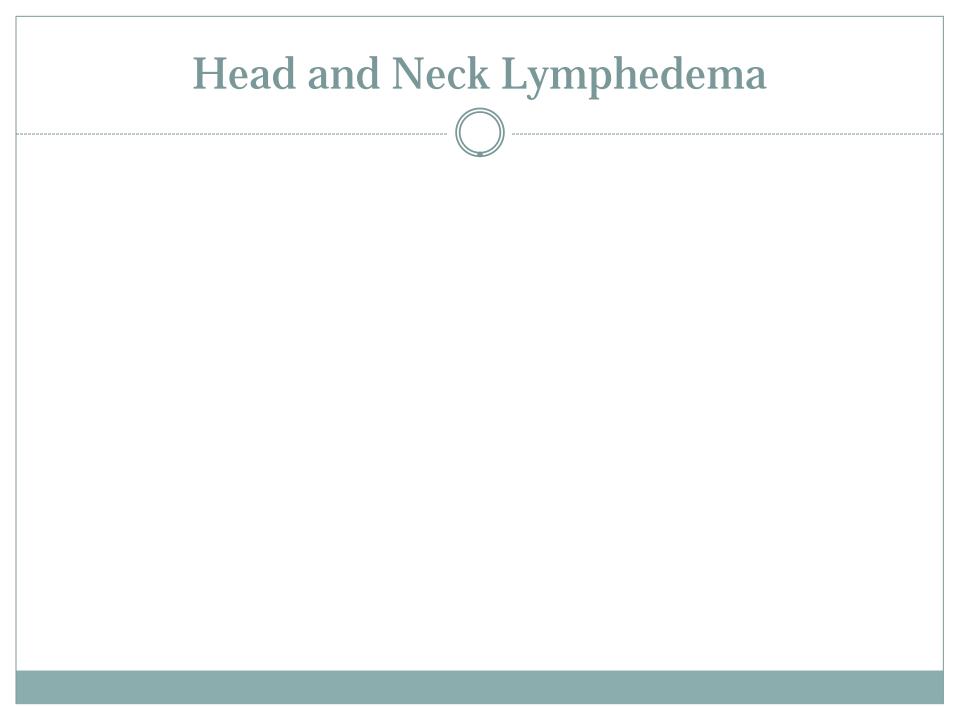
#### Quality of Life

- Lower than breast cancer survivors without lymphedema
- Lower than women who have not had cancer
- BUT... only slightly lower, and basically still quite good

- Self-care (About 50% do any kind of self-care)
  - Barriers
    - **Expense**
    - × Time
    - Lack of positive outcomes
    - **Painful**
    - ▼ Disrupts life
  - Benefits
    - **Decrease** in cost of acute treatment
    - **Decrease** in infections
    - Increase in perception of "control"

#### Intervention Studies

- Psychological / Emotional Support (Expressive Writing)
  - **X** Strong emotions
  - Writing perceived as helpful
- Physical (Advanced Pneumatic Device as Self-care)
  - × Trunk
    - Increase in sleep
    - Decrease in symptoms
    - Decrease in circumferential measurements
    - o Increase "massage"
  - × Arm
    - Increase in sleep
    - Decrease in symptoms
    - Decrease in circumferential measurements
    - o Increase "massage"
  - Laser Study in Progress No data



- Number of Head and Neck Cancer Survivors Increasing
  - Combined Chemo-radiation extending life
  - HPV virus causing higher percentages of head and neck cancer (Also, responds well to treatment – more survivors)
- Our study of 81 patients ≥3 months after treatment
  - o 25% no lymphedema
  - o 75% lymphedema
    - × 10% external
    - **x** 40% internal
    - **× 50% both**

- Influencing Factors
  - Radiation
  - Dose of radiation (higher = more risk for lymphedema)
  - Getting chemotherapy and radiation at the same time
- INTENSITY OF TREATMENT FROM RADIATION AND CHEMOTHERAPY NOT SURGERY PLACE THESE PATIENTS AT HIGHER RISK

#### Measurement and Assessment

- Internally with a scope
- Externally by physical examination / photography
- Combined using all methods
- Measurement is in testing phases right now (including symptom assessments)

# Internal Lymphedema – Head and Neck



No Lymphedema



Severe Lymphedema

- Co-Existing Medical Problems / Medications
  - Ounknown at this time due to lack of research

#### Symptoms

- Swallowing difficulty
- Mucous/dry mouth
- Impaired nutrition
- o Pain
- Voice Changes

#### Psychological distress

- Anxiety
- Body image disturbance
- Depression

- Function
  - Hearing, head movement, and jaw movement impaired
- Quality of Life
  - Poor

- Intervention
  - None
- Psychological / Emotional support
  - None
- Physical / Self-care
  - None

## Breast and Head and Neck Similarities and Differences

- Psychosocial symptoms of body image disturbance, sadness, social isolation, and distress in both groups
- Tightness and tingling in both groups
- Quality of life decreased in both, but more so in head and neck
- More functional impairment in head and neck
- More infection in breast
- Both get truncal swelling
- Head and neck appears to progress more rapidly "woody neck"
- More treatment options for breast
- Much more research and treatment reimbursement for breast than for head and neck
- Head and neck life-threatening when severe

Summary of Our Work To-Date: Breast Cancer

Regardless of the cause...

Lymphedema exacts a high toll on patients and families

Patients survive cancer, only to develop a "chronic" illness.

# Questions

