“Lymphedema in Patients Treated for Breast or Head and Neck Cancer”

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Background

Primary Research in Cancer-related Lymphedema

- Breast
- Head and Neck
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.
Breast Lymphedema
Summary of Research Findings - Breast

- 20% - 30% develop lymphedema in arms (Truncal statistics unknown)
  - Most by year 3
  - 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
  - Fibromyalgia
- Diabetes
- Carpal Tunnel
- Cardiac Medications
- Hot Flash Medications
- Osteoporosis Medications/Calcium Supplements
Summary of Research Findings - Breast

- **Symptoms**
  - Altered limb sensation
    - Heaviness
    - Aching
    - Hardness
    - Tightness
    - Burning
    - Pins and Needles
    - Swelling
    - Stabbing

- **Loss of confidence in body**
- **Decreased physical activity**
- **Fatigue**
- **Psychological distress**
  - Sleep
  - Sexuality
  - Body Image
  - Sadness
  - Loss of “normal”
  - Marginalization by society
Summary of Research Findings - Breast

- **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
Summary of Research Findings - Breast

- 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”
Summary of Research Findings - Breast

- **Intervention Studies**
  - Psychological / Emotional Support (Expressive Writing)
    - Strong emotions
    - Writing perceived as helpful
  - Physical (Advanced Pneumatic Device as Self-care)
    - **Trunk**
      - Increase in sleep
      - Decrease in symptoms
      - Decrease in circumferential measurements
      - Increase “massage”
    - **Arm**
      - Increase in sleep
      - Decrease in symptoms
      - Decrease in circumferential measurements
      - Increase “massage”
  - Laser Study in Progress – No data
Head and Neck Lymphedema
Summary of Research Findings – Head and Neck

- **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**
  - 25% no lymphedema
  - 75% lymphedema
    - 10% external
    - 40% internal
    - 50% both
Summary of Research Findings – Head and Neck

- 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
Summary of Research Findings – Head and Neck

- **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
Summary of Research Findings – Head and Neck

- Co-Existing Medical Problems / Medications
  - Unknown at this time due to lack of research
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Psychological distress</th>
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</thead>
<tbody>
<tr>
<td>Swallowing difficulty</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Mucous/dry mouth</td>
<td>Body image disturbance</td>
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<tr>
<td>Impaired nutrition</td>
<td>Depression</td>
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<tr>
<td>Pain</td>
<td></td>
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<tr>
<td>Voice Changes</td>
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Summary of Research Findings – Head and Neck

- **Function**
  - Hearing, head movement, and jaw movement impaired

- **Quality of Life**
  - Poor
Summary of Research Findings – Head and Neck

- **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