LYMPHEDEMA

Royal Victoria Regional Health Centre
Cancer Care Program

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Lymphedema Class - Objectives

• To review the anatomy of the lymphatic system

• To better understand what is lymphedema: definition, risk factors, signs and symptoms, incidence

• To review treatment options and risk reduction guidelines for lymphedema

• To improve awareness on how to reduce your risk of developing lymphedema or better control flares of confirmed lymphedema
Class now online!

Want a refresher on today’s class? Watch the video!

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Lymph Vessel System

The Lymphatic System

- Cervical lymph nodes
- Thymus
- Palatine tonsil
- Axillary lymph nodes
- Spleen
- Thoracic duct
- Cisterna chyli
- Inguinal lymph nodes
- Right lymphatic duct
1. Transport system
   - Moves large particles that our circulatory system cannot absorb (protein, long chain fats).
   - Moves approximately 2 liters of fluid per day.

2. Boost our Immunity
   - Transportation
   - Generates response

3. General “detoxification”
Superficial Drainage Pathways

Superficial Lymph Drainage Pathways of the Skin

Watersheds ---
Pathways →
• Definition
  – Abnormal collection of protein rich lymph fluid in the interstitial space caused by damaged lymph vessels
  
  – Results in edema/swelling, chronic inflammation and fibrosis (hardening) of tissue
  
  – No cure
  
  – Can be treated and controlled
Differential Diagnosis

- Lymphedema
- Lipedema
- DVT
- CHF
- Infection
- Recurrence of cancer
- Lymphodynamic edema (e.g., kidney failure)
Types of Lymphedema

• PRIMARY
  – Occurs without any obvious cause (unknown)
    • Congenital (0-2 years old)
    • Lymphedema praecox (<35 years old)
    • Lymphedema tarda (>35 years old)

• SECONDARY (acquired)
  – Occurs when lymph vessels are injured, radiated, removed or infected.
  – North America: usually as a result of lymph node dissection and/or radiation.
  – It can develop immediately after surgery or weeks, months or years later.
  – Filariasis: tropical or subtropical regions.
Incidence of Secondary Lymphedema

• Breast Cancer
  – Kligman (2004): 10% from surgery alone
  20-30% surgery plus radiation
  – Ozaslan and Kuru (2004): 41% surgery plus axillary radiation

• Gynecological Cancer
  – Beesley (2007):
    • Overall 10% diagnosed LE.
    • Highest prevalence of diagnosed among vulvar (36%), cervical (12%), uterine (8%), ovarian (5%)

• Melanoma
  – Faries et al (2010): 12%-20%
Triggers of Secondary Lymphedema

- Can include:
  - Injury
  - Weight gain (obesity)
  - Air travel
  - Infection
  - Stress (emotional, physical)
  - Increase heat
Signs and Symptoms of Lymphedema
(What to Watch Out for)

- Sense of fullness in limb(s)
- Pins and needles
- “Bursting” sensation
- Shooting pain, discomfort or aching
- Skin changes: feeling tight/thickening/discoloration
- Feeling of heaviness or tightness
- Decrease flexibility in the hand/wrist
- Difficulty fitting into clothing in one specific area
- Ring/watch/bracelet tightness
Signs and Symptoms of Lymphedema (What to Watch Out for)

• Affected limb can be warmer than unaffected one
• Indenting of the skin when swollen area is pressed
• Swelling in arm or chest
• Swelling becomes hardened
• Swelling continues to grow
• Repeated infections in affected area
• Decrease mobility of joints in affected limb
• Leaking of lymph fluid through skin
Stages of Lymphedema

• STAGE 0
  – Latent or sub clinical stage
  – Swelling not visible but lymphatic transport impaired
  – Months or years before overt swelling is observed
  – Feeling of fullness, heaviness, tightness, pain

• STAGE 1
  – Swelling may come and go
  – Sometimes helped by elevation
  – Edema could be pitting
Stages of Lymphedema

• STAGE 2
  – Early stage: Limb elevation rarely reduces edema, pitting
  – Late stage: Edema may or may not be pitting, fibrosis may begin, limb hardens and increase in size

• STAGE 3
  – Limb is very large and tissues hard and unresponsive
  – No pitting
  – Skin changes (thickening, hyperpigmentation, skin folds, fat deposits, warty overgrowths)
  – Can be called lymphostatic elephantiasis

The Diagnosis and Treatment of Peripheral Lymphedema: Consensus Document of the International Society of Lymphology, 2003
Lymphedema Treatment

• Conservative
  – Physical treatment (Combined Decongestive Therapy - CDT)
  – Other physical therapy modalities
    • Hyperbaric oxygen, low level laser therapy, etc

• Pharmacological Treatment

• Psychosocial

• Surgical
Combined Decongestive Therapy (CDT)

- **Intensive Phase**
  - Skin care
  - Education in self care
  - Manual lymphatic drainage
  - Compression therapy
    - Short stretch compression bandages
  - Remedial exercise

- **Maintenance Phase**
  - Skin care
  - Manual lymphatic drainage
  - Compression therapy (garments, night compression)
  - Exercise
Skin Care

• Meticulous skin care is important to **PREVENT INFECTION**

• Goal is to:
  – Keep skin healthy
  – Improve condition
  – Deal with problems
Skin Care

• Skin kept soft and supple, clean and in good health.

• Use mild hypoallergenic soap.

• Carefully dry all body parts gently by patting (between digits and crevices).

• Use fragrance free and low ph moisturizing lotion
  – Eg. Lymphoderm, Eurecin, Lubriderm

• Any cuts should be washed and treated with antibiotic cream or ointment and watched carefully.
Any signs of infection: seek medical attention.
Infections

• Stagnant condition of lymphedema provides a welcoming environment for bacteria which can lead to infections
  – Eg. Cellulitis, lymphangitis

• SEEK MEDICAL ATTENTION IMMEDIATELY

• Treatment of choice: ANTIBIOTIC

• Stop manual lymphatic drainage and do not wear compression bandages/garments until infection resolves
Signs And Symptoms of Infection

• May include some or the following:
  – Rash, red blotchy skin
  – Discoloration
  – Itching in the affected area of the skin
  – Heavy sensation of limb (more so than usual)
  – Pain
  – Increase swelling or temperature
  – Malaise, chills, fever
Manual Lymph Drainage
Compression Bandaging
Compression Garments
Compression Therapy

• Compression garments
  – Worn during the day/during waking hours
  – Good fit is crucial for maintaining limb size
  – How much compression? 20-60 mmHg
  – Should be replaced every 4-6 months (need 2 at a time; one to wear and one to wash)
  – OTC vs custom
  – ADP and/or insurance coverage
Reasons for Garment Failure

• Poor fit
• Fabric
• Appearance
• Sizing
• Poorly instructed in donning/removal
• Poor garment care
• Not replaced frequently enough
Exercise and Lymphedema

Exercise program which incorporates **strength, stretching,** and **aerobic exercises** has been shown to improve quality of life by decreasing distress, enhance well being, improved functioning, and increased positive effect.

Components of Exercise Program in Lymphedema

• **STRETCHING**
  – Addresses ROM, myofascial restrictions, scar restrictions, skin changes from radiation
  – Improved flexibility can help remove any restrictions to the maximal transport capacity (Miller, 1998)

• **CARDIOVASCULAR**
  – Swimming (Tidhar, 2004)
  – Walking (Mock et al, 2001)
    • Significantly less fatigue and emotional distress, and higher functional ability and quality of life
Components of Exercise Program in Lymphedema

• STRENGTHENING
  – Interval training is best. Start with light resistance and increase slowly and gradually (Abreast in a Boat Dragon).
Lymphedema Exercise Guidelines

• Individualized program

• Monitor signs/symptoms after exercising and adjust intensity accordingly.

• Exercise in compression to avoid pooling of fluid in the limb.

• Outdoor sports in summer (avoid extreme midday temperature).
Practical Tips

• Skin care (avoid trauma/injury and reduce infection risk)
• Activity/Lifestyle
• Avoid limb compression
• Compression Garments
• Extremes of Temperature
• Additional practices specific to lower extremity lymphedema
It is important to remember that lymphedema can be treated and controlled.
How to Get Help

• If you experience any of the signs and symptoms of lymphedema or infection, seek medical attention immediately
• Consult your doctor
• Seek treatment for lymphedema:
  – CDT: combined decongestive therapy
Community Resources and Websites

• BROCHURE
• WEBSITES
  – This class is now on video! bit.ly/RVHlymph
  – Cancer Care Ontario (CCO) Evidence-Based Clinical Practice Guidelines www.cancercare.on.ca
  – Lymphedema Association of Ontario www.lymphontario.org
  – Lymphovenous Canada www.lymphovenous-canada.ca
  – www.breastcancer.org
  – Lymphedema circle of hope www.lymphedemacircleofhope.org
  – National Lymphedema Network (NLN) www.lymphnet.org
    Lymphedema Risk Reduction Practices
  - Ministry of Health - Application for Funding Pressure Modification Devices