Cancer Rehabilitation and Exercise in Alberta

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• Relationships that may introduce potential bias and/or conflict of interest:
  ➢ No relationships to declare
Objectives

1. To understand the role of, and need for cancer-specific rehabilitation services
2. To briefly describe the specialty areas and research evidence supporting interventions for cancer survivors
3. To outline cancer rehabilitation specialty services in Alberta
4. Introduce cancer rehab research & the “Alberta Cancer Exercise Program”
What is Cancer Rehabilitation?

- Specialty area that focuses on rehabilitation strategies to optimize outcomes for cancer survivors
- To prevent or minimize the impact of impairments, reduce activity limitations, and maximize life participation for survivors of cancer.
- Treatments: preventative, restorative, supportive and palliative

Adapted from *Cancer Rehabilitation Specialty Program*, Commission on Accreditation of Rehabilitation Facilities; 2013
Why is the need emerging now?

- Growing and aging population
- Improving cancer survival
- More amenable to rehabilitation intervention

*Stubblefield, 2013*
Effects of Cancer Treatments

Surgery

Chemo-therapy

Radiation

Acute, Late & Long-term Effects
Macmillan Cancer Support
• UK charity
• provides specialist healthcare information
• financial support to people affected by cancer

Long-term consequences of cancer and its treatment
July 2013
Find vigorous activities very difficult or impossible

27% 12%

have only average or poor health

33% 17%

visited a healthcare professional 10 times or more in the last year\textsuperscript{21}

9% 4%

\textcolor{green}{\textsuperscript{21}} = People who have had cancer

\textcolor{green}{\textsuperscript{21}} = People who have not had cancer
Top Ongoing Impairments identified by Macmillan:

- Fatigue
- Pain
- Incontinence (bowel and bladder)
- Sexual difficulties
- Osteoporosis
- Cardiovascular disease
- Psychosocial problems
- Swallowing and speech difficulties
- Lymphedema
Cancer rehabilitation = not accept the “new normal”

A leading cause of emotional distress is physical disability

Julie Silver MD, 2013
High-Quality Cancer Care

- New Cancer Diagnosis
- Prehabilitation
- Acute Cancer Treatments
  - No Impairments
  - Impairments
- Rehabilitation
- General Exercise/Wellness

Julie Silver, 2013 STARS Program
Fatigue

- Most prevalent symptom: ~94% of cancer survivors
  - All cancer types: radiation therapy & chemotherapy
- Multidisciplinary approach may be needed
  - Including activity enhancement

- Best evidence = EXERCISE
- Lower volumes and intensities of exercise appear to be most effective in addressing symptoms of fatigue during chemotherapy (Carayol, 2013)
Pain & Dysfunction

- Upper extremity dysfunction: breast cancer
  - Shoulder weakness & stiffness
  - Breast, chest wall and arm edema
  - Axillary Web Syndrome
- Neck, jaw and shoulder pain & dysfunction: head & neck cancer

Best evidence = early PT & OT intervention
Lymphedema

- Breast Cancer
- Gynecological Cancers
- Melanoma
- Head & Neck
- Sarcoma
- Prostate Cancer

- Best evidence
  - Exercise & weight management = risk reduction
  - Compression & exercise = symptom management
Chemotherapy-induced peripheral neuropathy

- Side effect of neurotoxic chemotherapeutic drugs
- Inflammation, injury or degeneration of the peripheral nerve fibres
- Early symptoms: tingling, numbness, and burning in the fingers and toes
  “stocking/ glove” pattern

- Best evidence
  - Exercise = risk reduction
  - Exercise, modalities, orthotics, aids = symptom management
Return to Work

• Return to work hampered by both physical and psychosocial impairments

• Cognitive impairments most impaired return to work; and exercise programming helped enhance energy and improve fitness

Groeneveldt et al., 2013; Groeneveldt et al., 2012; Aaronson et al., 2014

Best evidence = Exercise

- Reduce time to return to work
- Improve fitness, enhance energy levels
- Reduce cognitive symptoms during work
Cancer Rehab Research: 
recently completed studies

1. Self-management study: Night-time compression for breast cancer related lymphedema: a multicentre trial  
   \( N = 120 \)

2. Therapeutic yoga and resistance exercise for lung cancer survivors with dyspnea: a pilot study \( N = 23 \)

3. Ultrasound and therapeutic exercise for chemotherapy induced peripheral neuropathy: a pilot study \( N = 31 \)

4. Alberta Cancer Exercise Pilot Study \( N = 80 \)
Current Active Rehab Research

1. Alberta Moving Beyond Breast Cancer: Cohort Study
   - Breast cancer shoulder function, lymphedema and CIPN
   N = ~1,200/ 1,500

2. Therapeutic and Resistance Group Exercise Training: Head & Neck cancers – shoulder & neck focus   N = 42/50

3. Decongestive Exercises and Compression for Breast Cancer related Lymphedema   N = 15/ 60


5. Alberta Cancer Exercise Study   N = 730/ 1000
THE ACE HYBRID IMPLEMENTATION-EFFECTIVENESS STUDY

Provincial program: Edmonton, Calgary, Red Deer, Medicine Hat… coming soon to Grande Prairie, Lethbridge and Fort McMurray
Exercise Specialist Training

Provide cancer specific training to community-based exercise specialists.

Free 12-week Cancer-specific Community-based Exercise Classes

Programs are offered in community locations that are more convenient for survivors.

Screening and Referral of Survivors

Screening for safety. Triage to appropriate programming.
Summary

- Cancer and cancer treatment can result in significant long-term impairments that can impact physical functioning, quality of life and return to work.

- Increasing numbers of survivors = increased need and demand for rehabilitation and exercise programming.

- Specialized Programming is available: Edmonton, Calgary, Red Deer, Lethbridge and coming soon: Grande Prairie.

- ACE is expanding across the province.
Connecting with Specialty Services

- Edmonton: Cross Cancer Institute
  - Physical Therapy, Occupational Therapy & Speech Language Pathology
- Calgary: Holy Cross Centre
  - Physical & Occupational Therapy
- Red Deer: Central Alberta Cancer Centre
  - Physical & Occupational Therapy
- Lethbridge: Jack Ady Cancer Centre
  - Physical Therapy

Alberta Cancer Exercise: albertacancerexercise.com
Thank You!

My colleagues in Rehabilitation Medicine at the Cross Cancer Institute, Tom Baker Cancer Centre (Holy Cross), Central Alberta Cancer Centre, Jack Ady Cancer Centre and at the University of Alberta