Objectives

1. Report and interpret new literature surrounding the examination of or treatment for oncology health conditions.
2. Compare prior knowledge and practice to ideas and concepts in current literature.
3. Discuss with peers the application and impact these studies can have on current and future practice.

Statistics

- 2016: Most common cancers - breast, lung and bronchus prostate, colon and rectum, bladder, melanoma of the skin, non-Hodgkin lymphoma, thyroid, kidney and renal, leukemia, endometrial, and pancreas
- 78% of cancer diagnoses are in those >55 years of age
- Higher in men (1 in 2) versus women (1 in 3)

Disclosures

- Cynthia Barbe has no disclosures regarding the material presented in this educational series.
- I love working in the Acute Care setting with the Oncology Population, especially as we can provide evidenced based therapy interventions across the continuum of care and through their survivorship.

Statistics

- Overall survival rate has increased to 69% in 2010 (compared to 49% in 1977)
- Cancer is the 2nd leading cause of death in the US – 995,690 deaths in 2016 (1,630 people per day)
- Direct medical costs in 2013 - $74.8 billion
- National expenditures totaled $125 billion in 2010 - could reach $156 billion by 2020
CANCER REHABILITATION

• “Toward a National Initiative in Cancer Rehabilitation: Recommendations From a Subject Matter Expert Group”
  • Stout, NL, et al.

CANCER REHABILITATION

• “Fee-for-Service cancer rehabilitation programs improve health-related quality of life”
  • Kirkham, AA, et al.
  • Current Oncology. 2016; 23(4): 233-240

CANCER REHABILITATION

• The evolving role of exercise in cancer patients: recent developments, recommendations, and future directions 2016.
  • Wiskemann, J, Scharhag-Rosenberger, F.

MULTI-DISCIPLINARY

• “Feasibility and impact of a dedicated multidisciplinary rehabilitation program on health-related quality of life in advanced head and neck cancer patients.”
  (Passchier, E, et al. 2016)

• “RE: Cancer rehabilitation education during physical medicine and rehabilitation residency.”
  (Ferraro, GC, et al. 2016)

MULTI-DISCIPLINARY

• “Start to finish trans-institutional transdisciplinary care: a novel approach improves colorectal surgical results in frail elderly patients.”
  (Chia, CLK, et al. 2016)

• “Efficacy of a multiprofessional rehabilitation programme in radical cystectomy pathways: A prospective randomized controlled trial.”
  (Jensen, BT, et al. 2014)
**PREHABILITATION**

- “Cancer prehabilitation and its role in improving health outcomes and reducing health care costs.”
  
  (Silver, JK. 2015)

- “Better sooner and later (P)rehabilitation.”
  
  (Ries, E. 2016)

- “Four-week prehabilitation program is sufficient to modify exercise behaviors and improve preoperative functional walking capacity in patients with colorectal cancer.”
  
  Chen, BP, et al.

- Support Care Cancer. 2017; 25: 33-40

**PREHABILITATION**

- “Personalized Home-based Interval Exercise Training May Improve Cardiorespiratory Fitness in Cancer Patients Preparing to Undergo Hematopoietic Cell Transplantation.”
  
  Wood, WA, et al.

- Bone Marrow Transplant. 2016; 51(7): 967-972

- “Feasibility of Presurgical Exercise in Men with Prostate Cancer Undergoing Prostatectomy.”
  
  Singh, F. et al.

- Integr Cancer Ther. 2016; Epub: 1-10

**PREHABILITATION**

- “Randomized clinical trial of prehabilitation before planned liver resection.”
  
  (Dunne, DFJ, et al. 2016)

- “Effect of prehabilitation on objectively measured physical fitness after neoadjuvant treatment in preoperative rectal cancer patients: a blinded interventional pilot study.”
  
  (West MA, et al. 2015)

**EXERCISE TYPES**

- “The influence of high-intensity compared with moderate-intensity training on cardiorespiratory fitness and body composition in colorectal cancer survivors: a randomized controlled trial.”
  
  Devin, JL, et al.

- J Cancer Surviv. 2016; 10: 467-479
EXERCISE TYPES

- "Postoperative inspiratory muscle training in addition to breathing exercises and early mobilization improves oxygenation in high-risk patients after lung cancer surgery: a randomized controlled trial."
  - Brocki, BC, et al.

EXERCISE TYPES

- "Resistance Training Reduces Disability in Prostate Cancer Survivors on Androgen Deprivation Therapy: Evidence From a Randomized Controlled Trial."
  - Winters-Stone, KM, et al.

OUTCOMES

- "Effect of a postoperative outpatient pulmonary rehabilitation program on physical activity in patients who underwent pulmonary resection for lung cancer."
  - (Maeda, K, et al. 2016)

OUTCOMES

- "Fitness outcomes from a randomized controlled trial of exercise training for men with prostate cancer: the ENGAGE study."
  - (Gaskin, CJ, et al. 2016)

OUTCOMES

- "Changes in exercise capacity, muscle strength, and health-related quality of life in esophageal cancer patients undergoing esophagectomy."
  - (Inoue, T, et al. 2016)

OUTCOMES

- "Improvement of Fecal Incontinence and Quality of Life by Electrical Stimulation and Biofeedback for Patients with Low Rectal Cancer after Intersphincteric Resection."
  - (Kuo, LJ, et al. 2015)

MOTIVATION & ADHERENCE

- "Higher-intensity exercise helps cancer survivors remain motivated."
  - Marin, E, et al.

MOTIVATION & ADHERENCE

- "Exercise motivation in rectal cancer patients during and after neoadjuvant chemoradiotherapy."
  - (Morelli, AR, et al. 2016)

MOTIVATION & ADHERENCE

- "Determinants of exercise adherence and contamination in a randomized controlled trial in cancer patients during and after allogenic HCT."
  - (Kuehl, R, et al. 2016)
LIFESTYLE INTERVENTIONS

- "Practical Clinical Interventions for Diet, Physical Activity, and Weight Control in Cancer Survivors."
  - Denmark-Wahnerfried, W. et al.

LIFESTYLE INTERVENTIONS

- "Prehabilitation with Whey Protein Supplementation on Perioperative Functional Exercise Capacity in Patients Undergoing Colorectal Resection for Cancer: A Pilot Double-Blinded Randomized Placebo-Controlled Trial."

DIETITIAN/NUTRITIONIST

- "Dietitian is an expert in prescribing therapeutic nutrition."
- "Nutritionist is a non-accredited title that may apply to somebody who has done a short course in nutrition or who has given themselves this title."
- Food Scientist = Qualified Nutritionist
- Part of Multi-Disciplinary Team

DIET & NUTRITION

- "THE ROLE OF THE PHYSICAL THERAPIST IN DIET AND NUTRITION HOD P06-15-22-17 [Position]"
- "Diet and nutrition are key components of primary, secondary, and tertiary prevention of many conditions managed by physical therapists. It is the role of the physical therapist to screen for and provide information on diet and nutritional issues to patients, clients, and the community within the scope of physical therapist practice. This includes appropriate referrals to nutrition and dietary medical professionals when the required advice and education lie outside the education level of the physical therapist."

Palliative

- "POSITIVE study: physical exercise program in non-operable lung cancer patients undergoing palliative treatment."
  - Wiskemann, J. et al.

CANCER TREATMENTS

Proton Therapy

- Precise, "pencil beam scanning" which targets the tumor & decrease the radiation dose to its surrounding healthy tissue
- Daily treatments; visualize the tumor each day
- Higher dose gives higher probability to kill the tumor
- Decreases recovery time & side effects
Proton Therapy

- Cyclotron - 90 ton particle accelerator
  - Beams of protons with high energy
  - Circulated with increasing velocity to get to an energized state to be “injected” into the beam
  - Provides a more precise delivery of radiation

CANCER TREATMENTS

Immunotherapy

- Categories
  - Cancer Vaccines - Norovirus
  - Checkpoint Inhibitors
  - Oncolytic Virus Therapies
  - Adoptive Cell Therapy
  - Adjuvant Immunotherapies
  - Monoclonal Antibodies

Combining with Radiation:
  - XRT damages DNA, leading to death of cancer cells
  - Also leads to immune system activation & augmentation of antigen presentation
  - Which can enhance the anti-tumor effects of immunotherapy

Combining with Chemo:
  - Chemo causes depletion of immunosuppressive lymphocytes
  - Creates a favorable “host” immune profile
  - Enhance effects of subsequent immunotherapy

Thank you for your time & attention!

- Has anyone had experience with Mistletoe Extract injections as a treatment for Cancer?

References

- https://www.google.com/search?q=colors+for+cancer&biw=1366&bih=599&source=imns&tbm=isch&q=%26ved=0ahUKEwiRmO5a597CAhXG5yYKhEsBMDUEQ_AUIBggKfmgro-AIEcVIkJ8eVM%3A
- http://eatrightdc.org/consumer/dietitian-vs-nutritionist/
- https://www.apta.org/uploadedFiles/APTAorg/About_Us/Policies/PracticeRolePTDietNutrition.pdf
References - Cancer Rehabilitation


References - Multidisciplinary

- Chia, CLK, Mantoo, SK, Tan, KY. Start to finish trans-institutional transdisciplinary care: a novel approach improves colorectal surgical results in frail elderly patients. Colorectal Disease. 2015; 16: 143-150.

References - Prehabilitation


References - Exercise Types


References - Prehabilitation


References - Prehabilitation

References - Cancer Treatments


• Bloch, O. Immunotherapy for Malignant Gliomas. Cancer Treatment and Research. 2015; 163:144-158.


References - Complementary/Integrative Options


References - Cognition
