Prehabilitation & Rehabilitation in Cancer Survivorship

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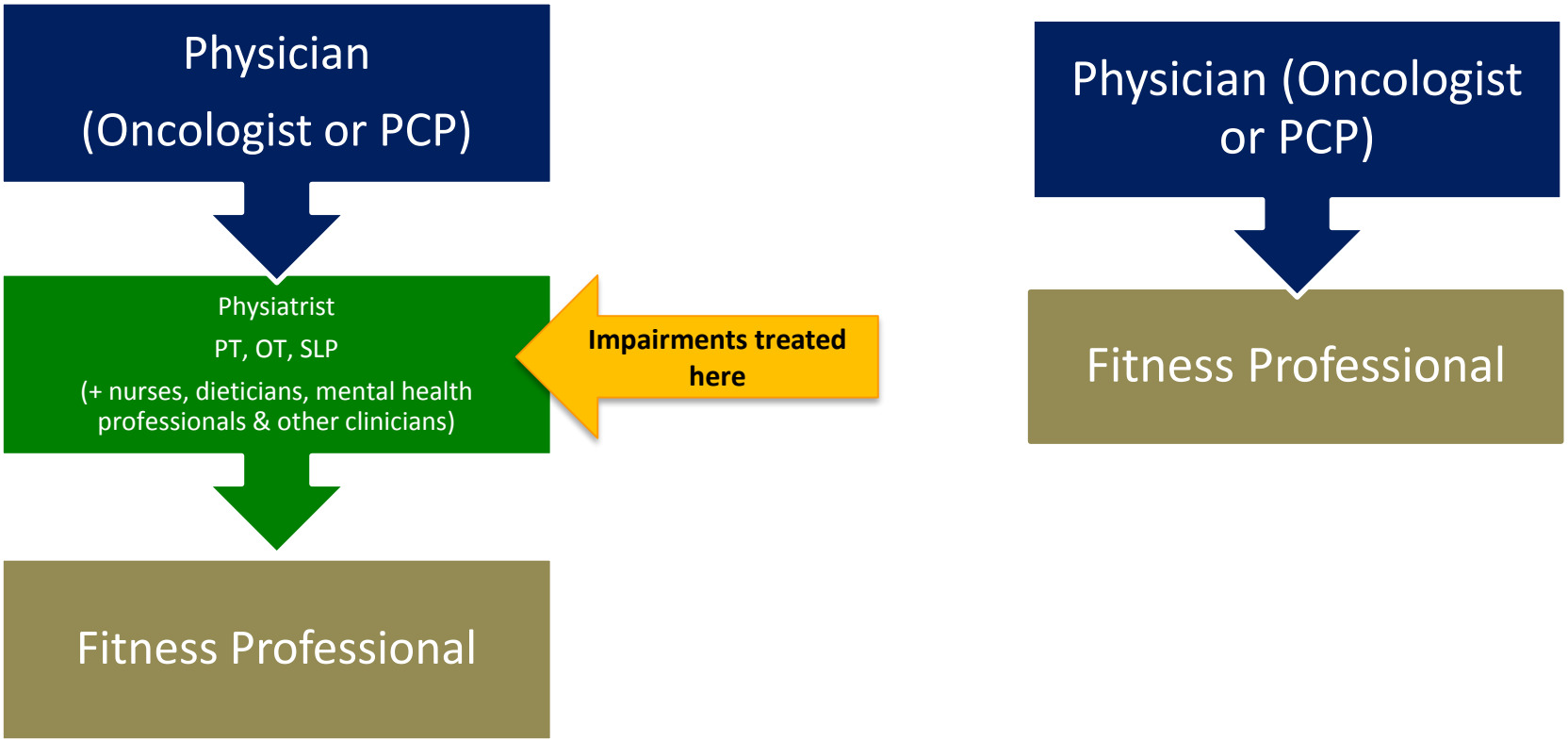
@JulieSilverMD


Physician
(Oncologist or PCP)
Physiatrist
PT, OT, SLP
(+ nurses, dieticians, mental health professionals & other clinicians)
Impairments treated here
Fitness Professional
Physician (Oncologist or PCP)
Fitness Professional

Impairments in Cancer Survivors

In a study of 163 women with metastatic breast cancer:

1. What percent had impairments?
2. How many total impairments were documented?
3. What percent of women received rehabilitation treatment as outpatients?

Answers:

92% of the women had impairments
530 impairments were documented
<2% of the impairments were treated

Cheville AL, et al. Prevalence and treatment patterns of physical impairments in patients with metastatic breast cancer. J Clin Onc 2008.

In a study of 529 older adults with cancer:

1. How many of these patients should have been sent for PT/OT for their functional deficits?

2. What percent received PT/OT?

Answers:

341 survivors (65%) had potentially modifiable functional deficits and needed PT/OT
9% received OT/PT

Pergolotti M et al. The prevalence of potentially modifiable functional deficits and the subsequent use of occupational and physical therapy by older adults with cancer. J Geriatric Onc 2015.

Cancer rehabilitation is medical care

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Distress & Disability

Biol Blood Marrow Transplant. 2014 Mar;20(3):387-95. doi: 10.1016/j.bbmt.2013.12.001. Epub 2013 Dec 17.

Symptom distress predicts long-term health and well-being in allogeneic stem cell transplantation survivors.

Bevans MF[1], Mitchell SA[2], Barrett JA[3], Bishop MR[4], Childs R[3], Fowler D[5], Krumlauf M[6], Prince P[7], Shelburne N[8], Wehrlen L[6], Yang L[6].

"…physical symptom distress negatively affected all outcomes…"

Psychooncology. 2011 Nov;20(11):1211-20. doi: 10.1002/pon.1837. Epub 2010 Sep 27.

Quality of life and physical performance and activity of breast cancer patients after adjuvant treatments.

Penttinen HM[1], Saarto T, Kellokumpu-Lehtinen P, Blomqvist C, Huovinen R, Kautiainen H, Järvenpää S, Nikander R, Idman I, Luoto R, Sievänen H, Utriainen M, Vehmanen L, Jääskeläinen AS, Elme A, Ruohola J, Luoma M, Hakamies-Blomqvist L.

"Physical performance and activity level were the only factors that correlated positively to QOL. "

Med J Aust. 2010 Sep 6;193(5 Suppl):S62-7.

Is psychological distress in people living with cancer related to the fact of diagnosis, current treatment or level of disability? Findings from a large Australian study.

Banks E[1], Byles JE, Gibson RE, Rodgers B, Latz IK, Robinson IA, Williamson AB, Jorm LR.

"The risk of psychological distress…relates much more strongly to their level of disability…"

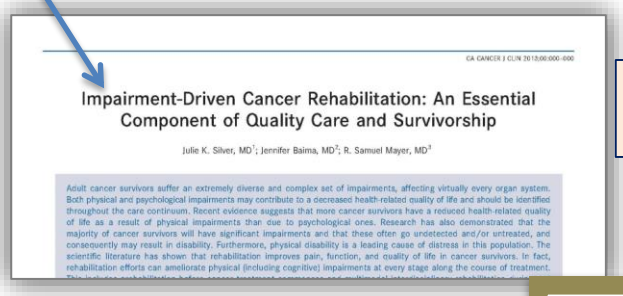
Cancer Epidemiol Biomarkers Prev. 2012 Nov;21(11):2108-17. doi: 10.1158/1055-9965.EPI-12-0740. Epub 2012 Oct 30.

Mental and physical health-related quality of life among U.S. cancer survivors: population estimates from the 2010 National Health Interview Survey.

Weaver KE[1], Forsythe LP, Reeve BB, Alfano CM, Rodriquez JL, Sabatino SA, Hawkins NA, Rowland JH.

Many more cancer survivors had poor QOL due to physical problems than emotional ones.

Impairment-Driven Cancer Rehabilitation



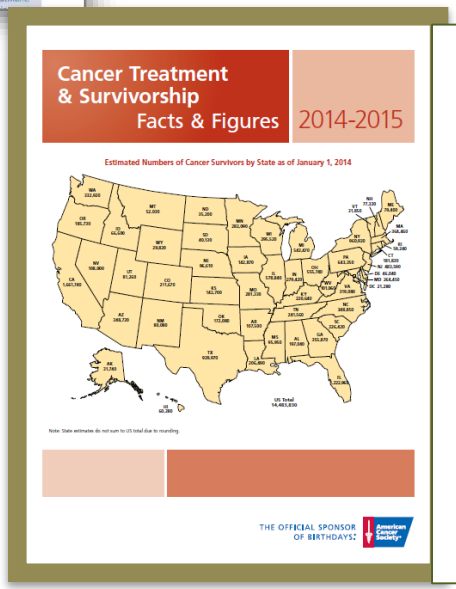
Impairment-Driven Cancer Rehabilitation: An Essential Component of Quality Care and Survivorship

Julie K. Silver, MD[1]; Jennifer Baima, MD[2]; R. Samuel Mayer, MD[3]

Adult cancer survivors suffer an extremely diverse and complex set of impairments, affecting virtually every organ system. Both physical and psychological impairments may contribute to a decreased health-related quality of life and should be identified throughout the care continuum. Recent evidence suggests that more cancer survivors have a reduced health-related quality of life as a result of physical impairments than due to psychological ones. Research has also demonstrated that the majority of cancer survivors will have significant impairments and that these often go undetected and/or untreated, and consequently may result in disability. Furthermore, physical disability is a leading cause of distress in this population. The scientific literature has shown that rehabilitation improves pain, function, and quality of life in cancer survivors. In fact, rehabilitation efforts can ameliorate physical (including cognitive) impairments at every stage along the course of treatment.

2013

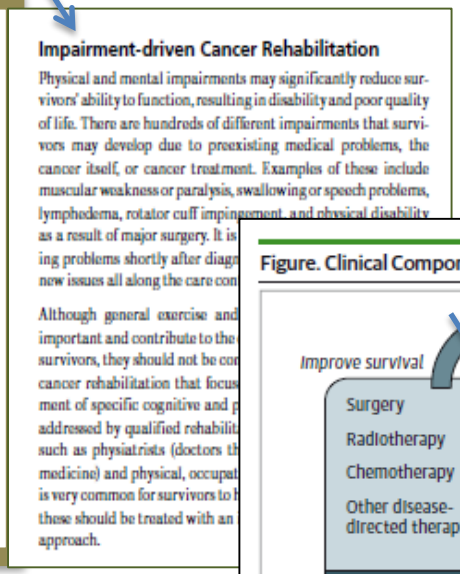
2014



Cancer Treatment & Survivorship Facts & Figures 2014-2015

Estimated Numbers of Cancer Survivors by State as of January 1, 2014

THE OFFICIAL SPONSOR OF BIRTHDAYS



Impairment-driven Cancer Rehabilitation

Physical and mental impairments may significantly reduce survivors' ability to function, resulting in disability and poor quality of life. There are hundreds of different impairments that survivors may develop due to preexisting medical problems, the cancer itself, or cancer treatment. Examples of these include muscular weakness or paralysis, swallowing or speech problems, lymphedema, rotator cuff impingement, and physical disability as a result of major surgery. It is ing problems shortly after diagn new issues all along the care con

Although general exercise and important and contribute to the survivors, they should not be cor cancer rehabilitation that focus ment of specific cognitive and p addressed by qualified rehabilit such as physiatrists (doctors th medicine) and physical, occupat is very common for survivors to h these should be treated with an approach.

2015

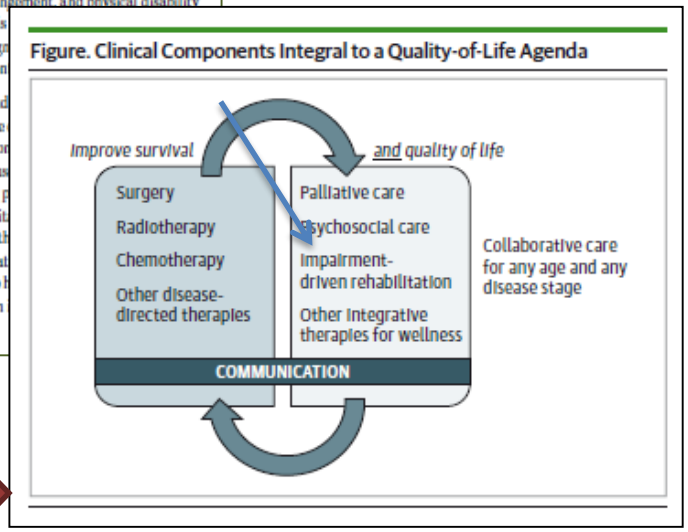


Figure. Clinical Components Integral to a Quality-of-Life Agenda

Improve survival

and quality of life

Surgery

Radiotherapy

Chemotherapy

Other disease-directed therapies

Palliative care

Psychosocial care

Impairment-driven rehabilitation

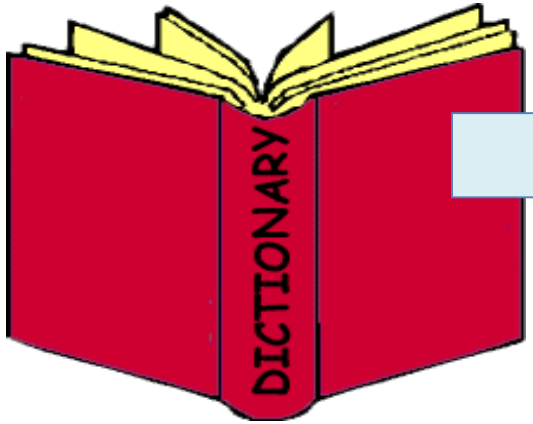
Other integrative therapies for wellness

Collaborative care for any age and any disease stage

COMMUNICATION

Silver JK, Baima J, Mayer RS (2013) Impairment-driven cancer rehabilitation: An essential component of quality care and survivorship. CA Cancer J Clin 63 (5):295-317.

Parikh RB, Kirch RA, Brawley OW. Advancing a quality-of-life agenda in cancer advocacy. JAMA Oncology (May 21, 2015).



Cancer Rehabilitation

"Cancer rehabilitation is medical care that should be integrated throughout the oncology care continuum and delivered by trained rehabilitation professionals who have it within their scope of practice to diagnose and treat patients' physical, psychological and cognitive impairments in an effort to maintain or restore function, reduce symptom burden, maximize independence and improve quality of life in this medically complex population."

Silver JK, Raj VS, Fu JB, Wisotzky EM, Smith SR, Kirch RA. Cancer rehabilitation and palliative care: Critical components in the delivery of high-quality oncology services. *Support Care Cancer.* 2015;(23):3633-43.

1

2

Surgical Prehabilitation in Patients with Cancer

State-of-the-Science and Recommendations for Future Research from a Panel of Subject Matter Experts

Francesco Carli, MD, MPhil[a,1,*], Julie K. Silver, MD[b,1], Liane S. Feldman, MD[c], Andrea McKee, MD[d], Sean Gilman, MD[e], Chelsia Gillis, MSc, RD[a], Celena Scheede-Bergdahl, PhD[f], Ann Gamsa, PhD[a], Nicole Stout, DPT, CLT-LANA[g], Bradford Hirsch, MD[h]

Phys Med Rehabil Clin N Am. 2017;28:49-64

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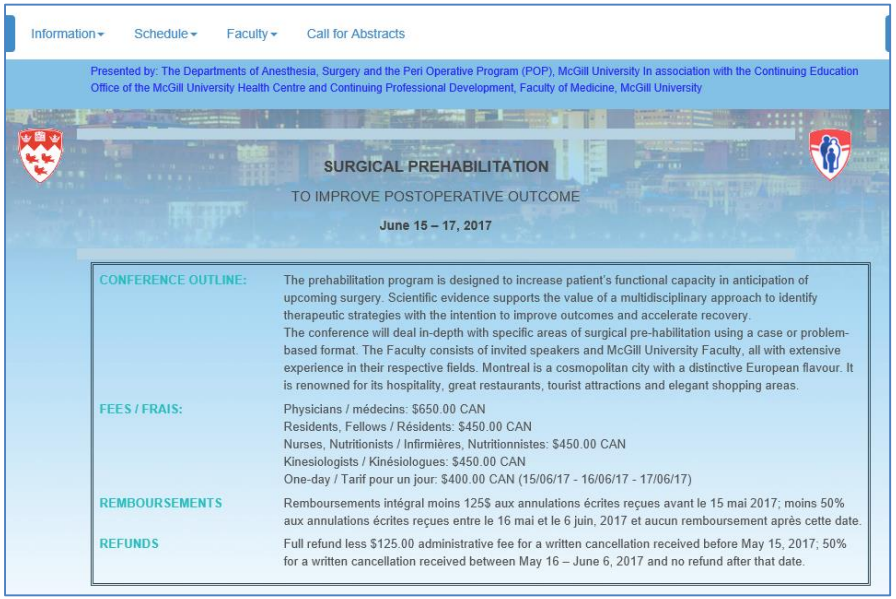


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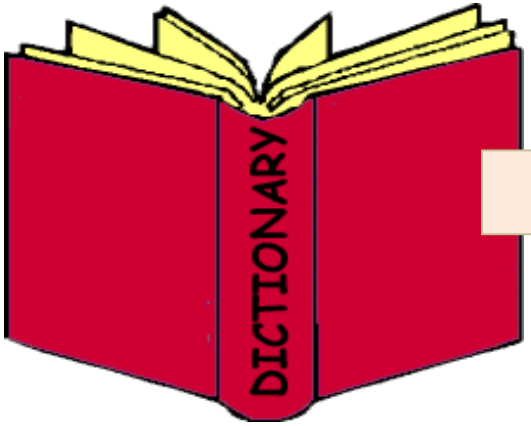
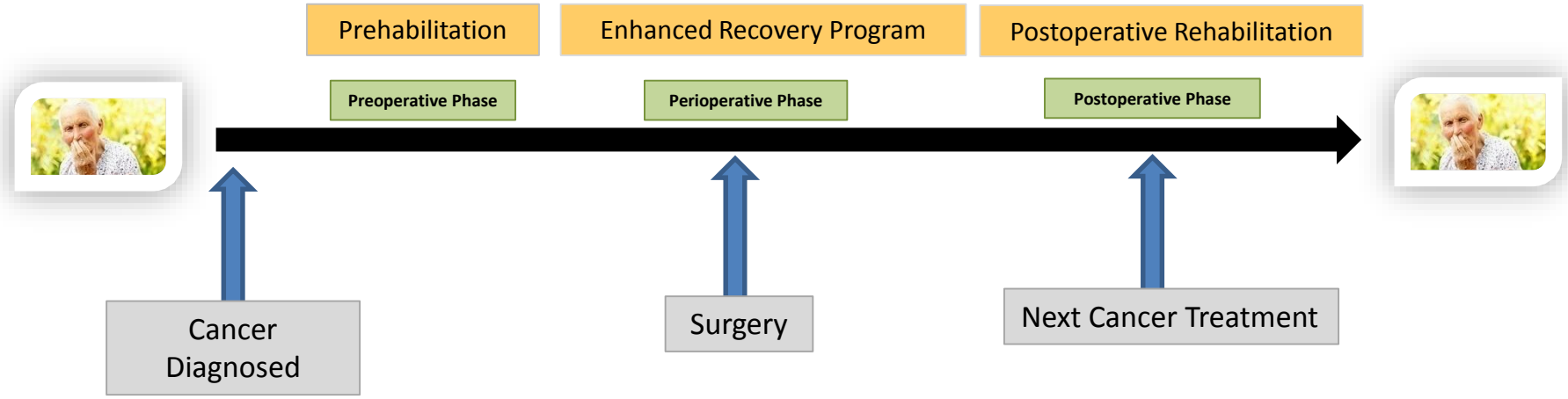


Cancer Prehabilitation

"Prehabilitation is a process on the cancer continuum of care that occurs between the time of cancer diagnosis and the beginning of acute treatment and includes physical and psychological assessments that establish a baseline functional level, identify impairments, and provide interventions that promote physical and psychological health to reduce the incidence and/or severity of future impairments."

Silver JK, Baima J, Mayer RS. Impairment-driven cancer rehabilitation: an essential component of quality care and survivorship. *CA Cancer J Clin.* 2013;63(5):295-317.

Step #1: Start at the beginning



1. **What is the patient's cancer diagnosis?**
2. **What is the patient's current health and functional status?**
3. **What oncology-directed treatments are planned?**

Step #2: Know the end goal

1. **What is the patient's prognosis?**
2. **What would a "best case" and potentially attainable health/functional status look like?**
3. **What complications or side-effects might prevent a best case result?**

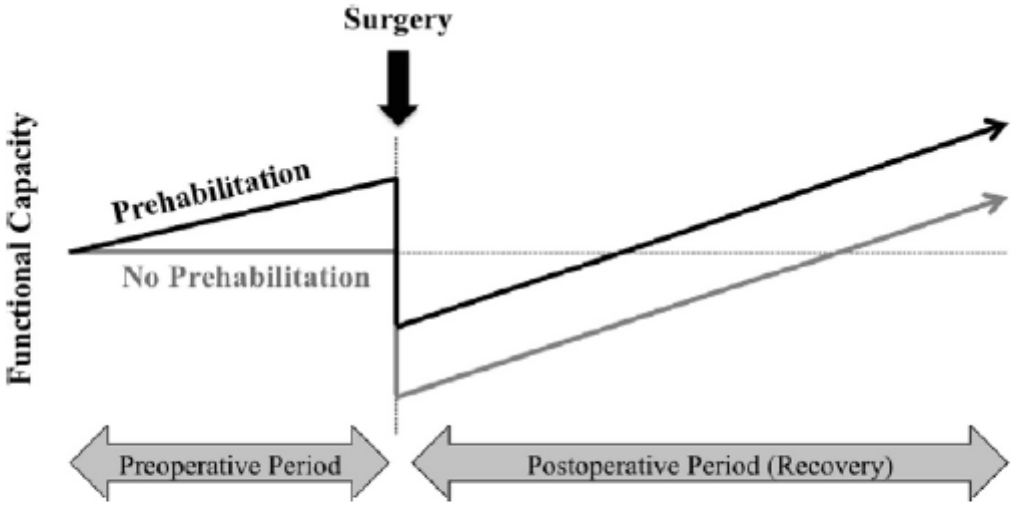
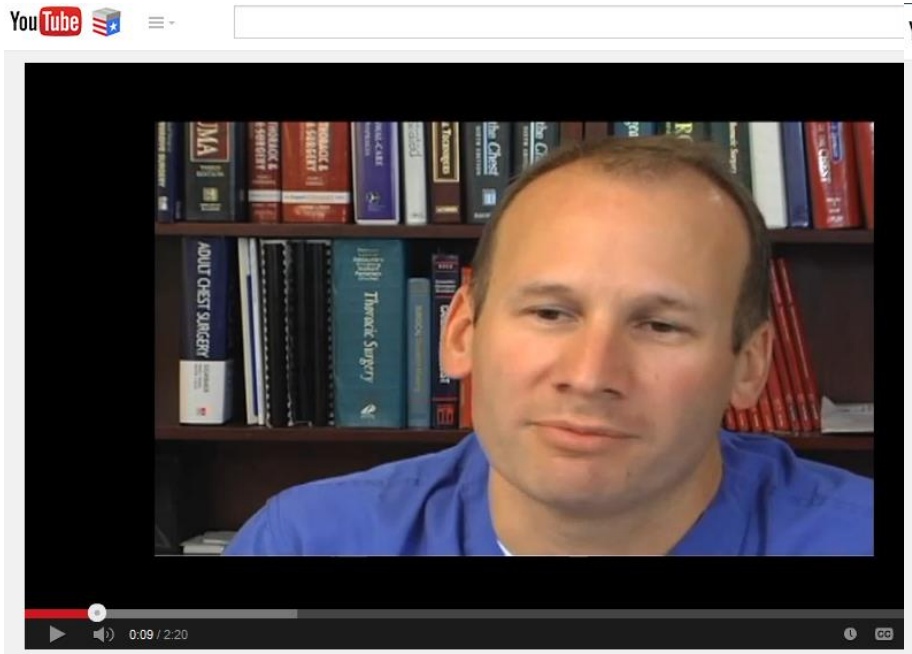


Fig. 1. Theoretic model of surgical prehabilitation based on the concept of increasing functional capacity before surgery. (*Adapted from* Carli F, Zavorsky GS. Optimizing functional exercise capacity in the elderly surgical population. Curr Opin Clin Nutr Metab Care 2005;8(1):25; with permission.)

Example: Lung Cancer

- What do we know?
  - Leading cause of cancer-related death in men and women (U.S. & worldwide)
  - High mortality rate, because most are diagnosed at advanced stage
  - Low dose lung CT screening reduces mortality
  - Medicare has now agreed to cover low dose CT screening in high risk patients
  - More patients will go to surgery, but many of them will be “high risk”



J. Timothy Sherwood, MD, Thoracic Surgeon, Mary Washington Healthcare

Journal of Oncology Navigation & Survivorship- August 2014

AONN+ Annual Navigation and Survivorship Conference Poster Abstract

Prehabilitation Improves the Physical Functioning of a Newly Diagnosed Lung Cancer Patient Before and After Surgery to Allow for a Safe Surgical Resection and Decreased Hospital Length of Stay: A Case Report

Elizabeth Hunt, RN, MSN, CRRN, CCM; Kristen VanderWijst, PT; Bobbi Stokes, PTA; Regina Kenner, RN; Kathryn Duval, MS, CCC-SLP; Messina Corder, RN, BSN, MBA
Mary Washington Healthcare

Most National Cancer Institute-Designated Cancer Center Websites Do Not Provide Survivors with Information About Cancer Rehabilitation Services

Julie K. Silver[1] · Vishwa S. Raj[2] · Jack B. Fu[3] · Eric M. Wisotzky[4] · Sean Robinson Smith[5] · Sasha E. Knowlton[1] · Alexander J. Silver[6]

Abstract This study is the first to evaluate the *existence* and *quality* of patient-related cancer rehabilitation content on the websites of National Cancer Institute (NCI)-Designated Cancer Centers. In 2016, a team of cancer rehabilitation physicians (physiatrists) conducted an analysis of the patient-related rehabilitation content on the websites of all NCI-Designated Cancer Centers that provide clinical care ($N = 62$ of 69). The main outcome measures included qualitative rating of the ease of locating descriptions of cancer rehabilitation services on each website, followed by quantitative rating of the quality of the cancer rehabilitation descriptions found. More than 90% of NCI-Designated Cancer Centers providing clinical care did not have an easily identifiable patient-focused description of or link to cancer rehabilitation services on their website. Use of a website's search box and predetermined terms yielded an additional 13 descriptions (21%). Therefore, designers of nearly 70% of the websites evaluated overlooked an opportunity to present a description of cancer rehabilitation services. Moreover, only 8% of the websites included accurate and detailed information that referenced four core rehabilitation services (physiatry and physical, occupational and speech therapy). Further research is needed to confirm the presence of cancer rehabilitation services and evaluate access to these types of services at NCI-Designated Cancer Centers providing clinical care.

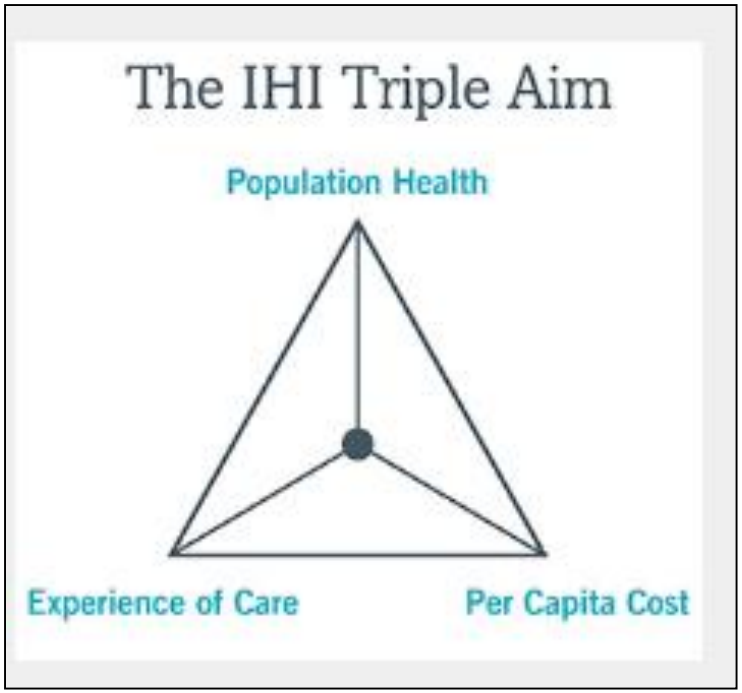
~ 90% of NCI-designated cancer centers websites don't have a link to cancer rehabilitation services

~8% of the websites include accurate and detailed information about cancer rehabilitation services

Triple Aim in Cancer Care

Can you make your patients happier and healthier--with fewer visits, fewer unnecessary tests (e.g. metastatic workups for musculoskeletal problems) and less cost?

YES, if you prevent some impairments and identify others early – treating them efficiently and effectively.



NIH Panel: Cancer Rehabilitation Recommendations

1. **Provide rehabilitation screening and assessment as part of a comprehensive cancer care plan, from the time of diagnosis, throughout the course of illness and recovery, to address the functional needs of patients. These services should be provided by trained rehabilitation professionals who utilize evidence-based best practices to diagnose and treat the many physical, cognitive and functional impairments associated with this medically complex population.**

2. **In selected cancers, rehabilitation services should be offered pre-treatment to optimize tolerance to surgical intervention and adjuvant treatment in order to minimize toxicity and improve outcomes.**

Ref: Stout NL, Silver JK, Raj VS, Rowland J, Gerber L, Cheville A, Ness KK, Radomski M, Stubblefield MD, et al. Towards a National Initiative in Cancer Rehabilitation: Recommendations from a Subject Matter Expert Group. *Arch Phys Med Rehabil.* 2016.

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