Cancer Prehabilitation and Rehabilitation

Building a Foundation for a Comprehensive Approach to Cancer Rehabilitation

Cancer Facts and Figures

- >1.7 million new cases of cancer were diagnosed in 2019
- Cancer is a disease of aging – 80% of cancers are diagnosed in people 55 years of age and older
- Approximately 606,880 cancer deaths in 2019
- Death rate has dropped approximately 27% from 1991 to 2016
- Chemotherapy Treatments are shifting from IV therapy in inpatient or outpatient infusion center settings to patient-managed oral chemotherapies

Health Related Quality of Life

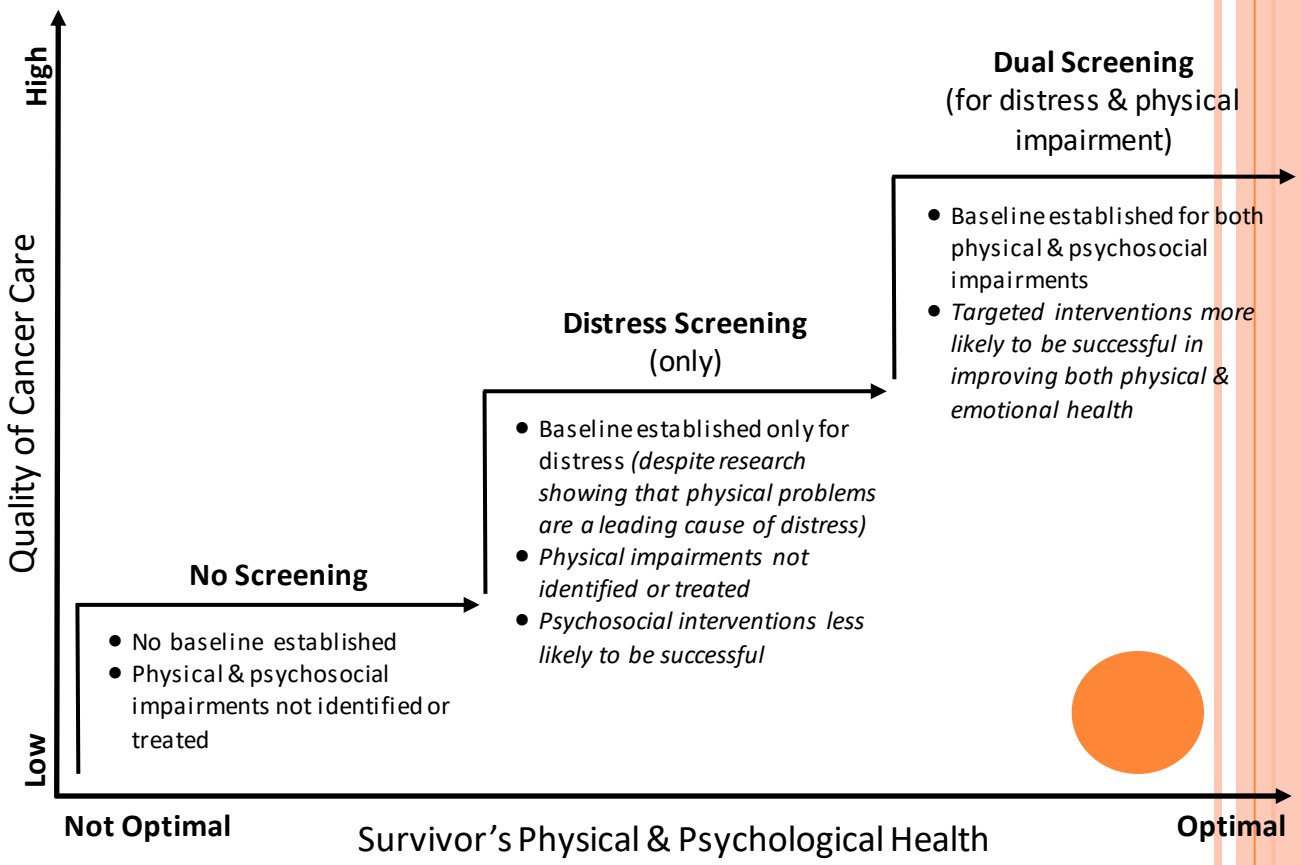
- Weaver et al. published a **study in 2012 comparing the HRQOL in cancer survivors with that** of others. Cancer survivors reported a much lower HRQOL for both physical and emotional health compared with population norms
- A leading cause, or perhaps even ***the*** leading cause of emotional distress in cancer survivors is physical disability
- Thorsen et al. evaluated 1325 survivors of the 10 most prevalent cancers and found that 40% of the participants reported unmet rehabilitation needs
- Common reality is one of under-diagnosis of physical impairments in which cancer survivors are left to their own devices to "accept a new normal" or self-identify a problem

Impairment-Driven Cancer Rehabilitation

- Impairments and disability are related, but not the same
- To alleviate disability, it is important to screen for impairments and then determine how they are related to current function
- Since physical and psychological impairments influence each other, an impairment-driven approach must include screening for both psychological and physical impairments (including cognitive dysfunction) simultaneously

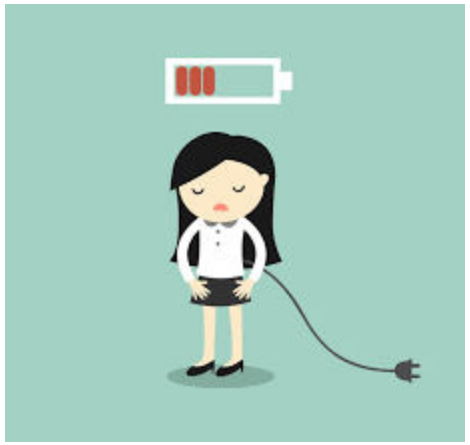
Cancer Rehabilitation

- The research literature supports that if patients with cancer were routinely screened for physical impairments and emotional distress and then referred appropriately to trained rehabilitation professionals, it would result in:
  - Sig. improvement in function
  - Reduced disability
  - Lower direct & indirect healthcare costs
  - Increased physical & psychological HRQOL



Common Physical Impairments That Can Lead To Functional Limitations

- **Pain**: up to 50% of patients undergoing acute cancer treatment will experience pain and up to 70% of those with metastatic disease will have pain; chronic pain in cancer survivors is relatively common as well
- **Cancer-related fatigue (CRF)**: 75% of patients have CRF often persisting beyond the treatment period

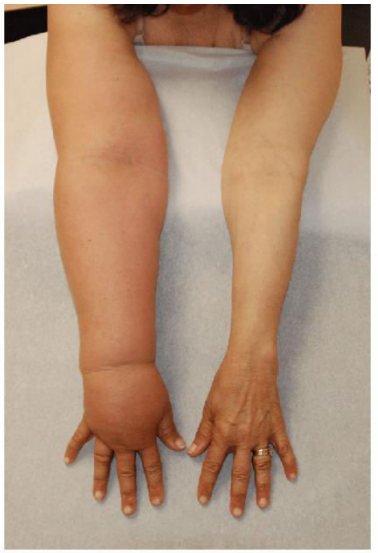


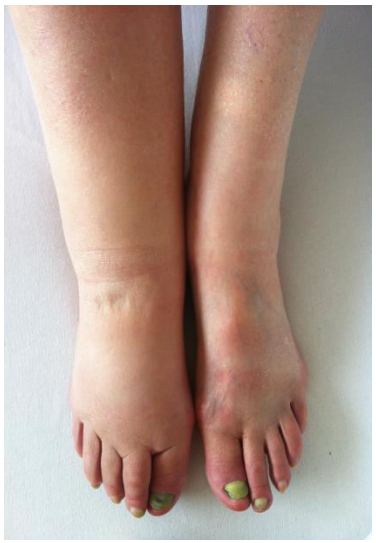
Common Physical Impairments (con't)

- **Chemotherapy-induced peripheral neuropathy(CIPN):** up to 60% of patients treated with chemo may develop neuropathy. Peripheral neuropathy is a result of damage to the nerves outside of the brain and spinal cord (peripheral nerves). It often causes weakness, numbness and pain, usually in the hands and feet, and therefore may cause balance issues and postural instability

Common Physical Impairments (con't)

- **Lymphedema:** up to 30% of patients undergoing treatment for breast cancer may develop lymphedema. Lymphedema refers to swelling that generally occurs in one of the arms or legs (sometimes both arms/legs). It is most commonly caused by the removal of or damage to lymph nodes as a part of cancer treatment.





Common Physical Impairments (con't)

- **"Cancer Related Cognitive Impairment" (otherwise known as "chemo brain"):** chemotherapeutic drugs cause neurotoxicity which may lead to mild cognitive impairment
  - Mental fogginess
  - Forgetful
  - Can't "find the words"
  - Reduced attention
  - Feeling "scattered"

Research is Showing Prehab is Beneficial

- For example, with newly diagnosed lung cancer patients, prehabilitation improved their breathing and overall strength, making surgery easier and with fewer post-operative complications.
- Developing High-Quality CA Rehab programs: A Timely Need This article stated that:
  - rehabilitation efforts should begin at the time of cancer diagnosis and continue through treatment and after treatment ends.
  - The model recommends a comprehensive assessment PRE-Operative evaluation to establish baseline functioning
  - It discusses four levels of rehab

Research, con't

- Article: Nutrition and Physical Activity Guidelines for Cancer Survivors --2012
  - Safe and feasible during cancer treatment
  - Can improve physical functioning, fatigue and multiple aspects of quality of life.
  - No evidence stating exercise has a negative effect on chemotherapy with lymphoma survivors (one study)
  - May need to exercise at a lower intensity and/or shorter duration than they are used to. Primary goals is to maintain activity as much as possible.

Research, con't

- For Head and Neck cancers, exercises targeting muscles involved in swallowing have shown to reduce the likelihood of impairments later on during treatment.
- For prostate cancer, completing pelvic floor exercises before treatment has proven to reduce incontinence issues.
- Breast cancer patients should work on upper body strength and range of motion PRIOR to cancer therapy and surgery to avoid pain with due to a possible frozen shoulder later on.

Research, con't

- Prehab should use a Multi-Modal approach. That is, not just "exercise" but looking at nutrition and stress and other factors.
- Because of the evidence citing the benefits of prehabilitation (and rehabilitation during cancer treatment), a cancer survivor does NOT have to "accept a new norm." A cancer survivor can improve their overall function in life and their QUALITY of life when provided with professional guidan

What is a Prehab Cancer Program?

- It is a coordinated program to assess and recommend interventions and strategies individually developed to assist cancer survivors to prepare (physically and emotionally) for their cancer treatment.

Prehabilitation

Prehabilitation or "Prehab" utilizes outpatient services to complete a baseline assessment prior to the start of cancer treatment to include:

- Physical, cognitive, nutritional and emotional distress assessments
- Home exercise program and education as to what to be aware of in terms of declining function and when to seek out additional therapy consultation
- Possibly a "Pre-Treatment" community class on a monthly basis similar to pre-op joint replacement class

So what would "Prehab" look like?

- Physical Therapy Evaluation with recommendations for individualized home exercises or if needed, direct therapy. Education.
- Occupational Therapy Evaluation with recommendations for individualized home exercises or if needed, direct therapy. Education.
- Speech Therapy Evaluation with recommendations for individualized home exercises or if needed, direct therapy. Education.
- And…..

What Does Prehab Look like, con't

- Nutritional Screening by dietician. Recommendations/suggestions provided
- Psycho-social well being screening conducted to assess for the need for counseling services or other interventions
- Availability of licensed social worker, psychologist, physician with knowledge of rehabilitation process
- Summarization of recommendations
- Follow-up phone call in one month to determine if changes in exercises needed, questionnaires regarding nutrition and social well being or recommend survivor return for direct intervention

And Importantly..

- Any program one attends should have a good relationship with the oncologist and/or radiation oncologist office, in order to relay important information

Specifically…

- Physical Therapy should address not only strength and range of motion, but also endurance/stamina, and balance issues. Having balance problems is relatively common with cancer treatment. PT is mostly focused on the core/trunk and legs.
- Occupational Therapy should also address strength, range of motion, endurance and stamina as it relates to one's ability to complete daily tasks. OT is mostly focused on core/trunk and arms, and one's ability to complete activities of daily living and instrumental activities of daily living.
- Speech Therapy should address any concerns with swallowing, how one's speech sounds, thinking skills, "retrieving" the words

Specifically, Con't

- Dietitian will determine how many calories you should be eating a day, assist with food choices and strategies to maintain caloric needs
- All the staff should provide a survivor with educational handouts ranging from "chemo brain" or "constipation" to "lymphedema" and "transportation services" and much, much more, depending on each survivor's individual needs

The need for physical and mental exercise!

The Main Point is….

- Start EARLY -- before one starts chemo or radiation therapy, if you can
- If one is already in chemo/radiation therapy, STILL try to get into a program that offers all that was discussed
- Make sure the program one enters is comprehensive

Last Thought about Prehab…

- Dr. Julie Silver states in her book (Before and After Cancer Treatment),

"it can help you get as strong as possible – physically and emotionally-BEFORE you begin treatment."

When more is needed….

- If a cancer survivor is experiencing a significant decline in their ability to complete daily tasks, it may be prudent to seek admission into an acute rehabilitation facility.
- Inpatient rehabilitation will work daily with the survivor and slowly improve strength and endurance in order to return home and complete tasks more independently.

Inpatient Rehabilitation (con't)

- All services are present in inpatient rehab
  - Physician oversight
  - Certified rehabilitation nursing staff
  - Physical Therapy
  - Occupational Therapy
  - Speech-language Pathology
  - Dietician
  - Pharmacist
  - Case Managers
  - Psychologist

Inpatient Rehabilitation (con't)

- Acute inpatient rehabilitation offers daily therapy, three hours a day, spread out throughout the day, to meet the needs of the cancer survivor
- Nutritional status and hydration is constantly being monitored
- Coordination of services is the utmost priority in acute rehabilitation facilities
- A "rehab" physician will see the patient at least 3 times a week.

Or…alternatives

- Home Health Services
  - Limited
  - Working with you in your home
- Outpatient services on a routine basis
  - Go to a facility 2-3x a week for PT, OT, ST services

If you have any questions….

- Talk to your oncologist

- Call Mountain Valley Regional Rehabilitation Hospital and ask for Brian Shaw (Director of Therapy) or Erin Aafedt (Speech Therapist, coordinator of the Cancer Prehab program)

  - MVRRH: 928-759-8800
  - Brian Shaw: 928-775-7895
  - Erin Aafedt: 928-775-7877