



Cancer Rehabilitation

Background:

Cancer and common treatments used to fight it can cause pain, fatigue, and loss of balance, coordination and strength. There are many different types of cancer and effects of the disease can be localized or can impact multiple systems throughout the body. Systemic problems arise because cancer affecting a specific organ, gland or system structure can keep it from operating the way it is supposed to. Modern medicine continues to develop cancer treatments and early detection techniques that have been effective in reducing morbidity and mortality. Unfortunately, many treatments that are effective in fighting cancer can cause damage to normal, healthy tissues and systems. Some of these treatments are listed below.

- **Radiation:** Traditional radiation treatment in which high doses of radiation are delivered to cancerous tissues. Because it travels through healthy tissues to reach the targeted cells, this type of radiation can impact normal tissues as well. Detrimental effects include skin irritation and soft tissue “burns”. Radiation can also cause fatigue and a loss of appetite as well as nausea and vomiting.
- **Cyberknife:** A type of radiation treatment specifically designed to protect healthy tissues. With this type of treatment there are many streams of small doses of radiation delivered to the tumor from a variety of directions. At the target, a high dose of radiation accumulates to kill the cancerous cells. Side effects of Cyberknife can include nausea and fatigue but are far less severe than with traditional radiation.
- **Chemotherapy:** These powerful drugs used to fight cancer can have severe side effects. Nausea and vomiting, fatigue, anemia (low red blood cell counts) and dizziness, other low blood counts (platelets, leukocytes), neuropathies, decreased appetite and hair loss are common for persons undergoing chemotherapy treatment.
- **Surgery:** Removes cancerous tissue
- **Stem Cell Transplant** – Also called a bone marrow transplant is a process in which diseased bone marrow that produces cancerous blood cells (seen in leukemia and other blood disorders) is destroyed with chemo or radiation therapy and replaced with stem cells that develop into normal bone marrow that produces healthy blood cells. This procedure takes place in phases over a few weeks or even months. The effects of stem cell transplant include those seen with the chemo or radiation treatment involved as well as a severe reduction in production of blood cells which can exacerbate fatigue. Some patients also receive medication to reduce effects of rejection of cells from a donor.

Evaluation and Plan of Care:

Initial Assessment of the patient will focus on areas that are specifically affected by cancer or targeted treatments. It should also include screening of body parts, movements, and activities throughout the whole person which could be impacted by an overall lack of activity or systemic effects of treatment. The Therapist should make special note of deficits that impact the patient’s general activity level, Activities of Daily Living (ADL) and Quality of Life and how they compare to pre-illness levels.

- **Muscle Performance** (including strength, power, endurance, and length)

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- Motor Performance
- Range of Motion
- Aerobic Capacity
- Sensory and Reflex Integrity
- Mobility/Gait
- Pain
- Skeletal Integrity
- Integumentary (Skin) Integrity

Goals:

The overarching goal of the Cancer Rehabilitation program is to return patients to their normal activities while eliminating, or reducing and managing symptoms of their disease and side effects of treatment.

Short Term Goals will relate to reducing deficits in the areas bulleted above. They will be relevant, measurable and achievable and they will be written in functional terms when possible.

Long Term Goals will also be relevant, measurable and achievable. Additionally, Long Term Goals will always be written in Functional terms and will focus on activities the patient participated in prior to her/his illness.

As an example, consider a patient who, prior to her illness, was Stand-up Paddle Boarding for up to three hours at a time on a weekly basis without resultant fatigue or muscle soreness. Now, due to nausea, balance deficits and poor activity tolerance from leukemia and/or effects of chemotherapy she cannot participate in this activity at all. Appropriate goals might be:

- In three weeks (short term) the patient will be able to stand on an unstable surface (foam) and complete upper extremity tasks without loss of balance for 15 minutes.
- In ten weeks (long term) the patient will be able to safely return to stand up paddle boarding for at least one hour, once a week.

Treatment:

The plan of care will result from findings in the patient assessment. In all cases, treatment will focus on returning the patient to her/his normal daily activities. Treatment will include, as needed:

- Patient Education/Instruction – in self care, home exercise/activity program, protective techniques etc.
- Functional Training in self care, job related, and social activities including the use of assistive technologies and devices
- Therapeutic Exercise - to increase endurance/activity tolerance, muscle strength and control
- Manual Therapy Techniques – to decrease edema, pain, spasm, and/or to increase the ability to move or prevent
- Integumentary Repair and Protection Techniques – for skin damaged by altered nutrition or by chemo or radiation treatments
- Motor Function Training – including balance, gait, mobility and the use of assistive technologies and devices
- Biophysical Agents/Modalities – to reduce pain and swelling and/or to enhance muscle performance/strength