








PHYSIOLOGICAL ALTERATIONS AND COMPLICATIONS:

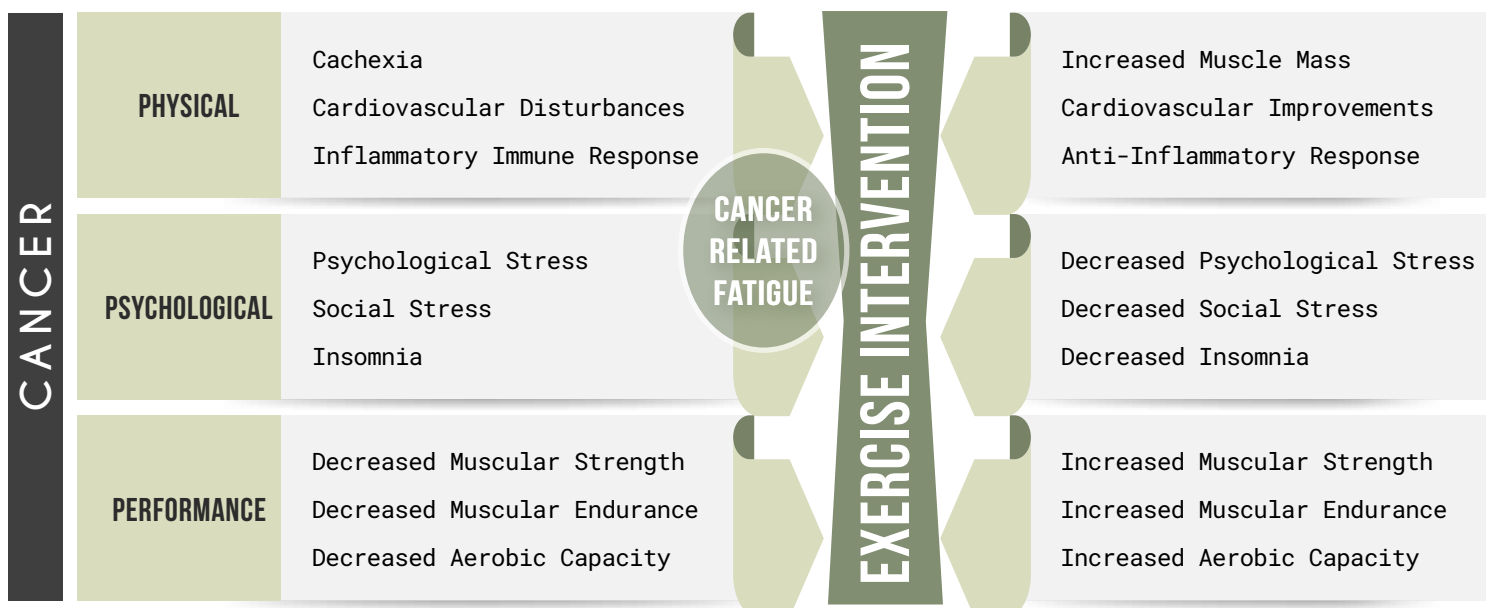
1. Cardiovascular Toxicity
2. Pulmonary Toxicity
3. Musculoskeletal Alterations
4. Immuno-Toxicity
5. Gastrointestinal Toxicity
6. Neuroendocrine Toxicity
7. Long-Term Decrements
 - a. ↓ Cardiac Function
 - b. ↓ Pulmonary Function
 - c. ↓ Muscular Strength
 - d. ↓ Motor Function

SYMPTOMS

Common Symptoms in Cancer Patients.

-  **Lymphedema**
-  **Pain**
-  **Body Image Changes**
-  **Muscular Weakness**
-  **Fatigue**
-  **Psycho-social impairments**
-  **Depression & Anxiety**

FATIGUE THEORY:



BENEFITS OF EXERCISE FOR CANCER PATIENTS:

TOXICITIES:

EXERCISE:

Cardiovascular Toxicity

- ✔ Strengthens Myocardium
- ✔ Increases Cardiac Output
- ✔ Increases Stroke Volume
- ✔ Decreases resting-and-exercise Heartrate

Pulmonary Toxicity

- ✔ Strengthens Intercostal Muscles
- ✔ Improves Ventilation

Musculoskeletal Toxicity

- ✔ Combats cancer cachexia
- ✔ Increases protein synthesis
- ✔ Stimulates the release of hormones involved in muscular cell growth
- ✔ Increases energy utilisation by improving metabolism

Immuno-Toxicity

- ✔ Increases Red Blood Cell Production
- ✔ Increases Haemoglobin Concentration

Neural Toxicity

- ✔ Improves motor unit recruitment
- ✔ Enhances neurochemical availability
- ✔ Improves coordination
- ✔ Improves peripheral neuropathy by means of increasing motor neurons

Gastrointestinal Toxicity

- ✔ Increases nutritional and water uptake
- ✔ Improves fatigue
- ✔ Enhances appetite

Endocrine Toxicity

- ✔ Improves Growth Hormone Regulation
- ✔ Increases glucose uptake
- ✔ Improves cycles of Hormone Release which enhances QOL

CANCER REHABILITATION:



IN-PATIENT & OUT-PATIENT REFERRAL, ASSESSMENT, PRESCRIPTION & INTERVENTION:

PHYSIOLOGICAL ASSESSMENT.

- Vitals
- Body Composition
- Functional & Structural Deviations
- Balance
- Spirometry
- Sub-maximal Endurance Testing
- Muscular Strength
- ROM
- NASM
- Flexibility
- ECG (If Necessary)

PSYCHOLOGICAL ASSESSMENT.

- Revised Piper Fatigue Scale
- Beck Depression Inventory
- QOL Index – Cancer Specific