Long-Term Survivorship: Emerging Care in Wellness & Rehabilitation

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Quality of life is a key concern for long term Cancer Survivorship

- Cancer survivor: individual from the time of diagnosis through the balance of life *National Cancer Institute*
- 18 million Americans as of January 2022 *American Cancer Society*
- Many of these people have a decreased Quality of Life
- Quality of life may be more important than length of life

Quality of Life Components

- There are several conceptual components that make up Quality of Life these include:

  - Physical well-being
  - Emotional well-being
  - Social/ family well being
  - Functional wellbeing
  - Intellectual (cognitive)

Quality of Life will improve if we can make changes to our lifestyles

- To improve Quality of Life, there are several lifestyle changes that can have a significant impact.
- Changing your current habits is often a challenge.
- Sometimes people think about making changes for a long time, a number of years.
- It’s difficult to improve Quality of Life if you don’t take action.

Lifestyle changes

The lifestyle changes below can lead to significant improvements in Quality of Life. I will also highlight new research in each area.

Most of these changes are areas a person can accomplish on their own if need be.

- Exercise
- Nutrition
- Sleep
- Stress reduction

Exercise

Exercise has been shown to reverse or decrease many side effects of treatment.

Some positive effects of exercise include:

- Decreased fatigue
- Stress reduction
- Improvement in mood
- Improvement in Quality of Life
- Improved cognitive health
- Decreased depression and anxiety

Exercise

- Decreased body fat
- Improved sleep
- Increased aerobic ability (Vo2max)
- Increased strength
- Improves activities of daily living
- Improves the sense of control
- Increases social interaction

Exercise

- Exercise was on MANY systems of the body and is considered a “polypill” by some
- One of these systems is cognitive function
- “Chemo brain” or reduced cognitive function can occur with cancer treatments
- Chemo brain is fogginess or forgetfulness of things you would normally remember.

Exercise and Cognition

New Research

- Neuroplasticity: certain regions of the brain can form for new neural connections throughout life.
- Exercise is one of several things (nutrition and focus) that can stimulate neuroplasticity.

Exercise and Cognition

- When the brain cells (neurons) connect, the flow of thoughts can continue.
- Exercise improves cognition by causing the release of Brain-derived neurotropic factor (BDNF) which allows neurons to connect
- This is a dose dependent system, meaning the more you exercise, the greater the chance of neuroplasticity

How much Exercise do we need?

There are several recommendations

- Surgeon General: (At least) 30 minutes of physical activity on most days of the week. (60 minutes rather than 30 minutes is better)
- Exercise Prescription:
- Walking
- 30 minutes
- Intensity: “Talk Test” (moderate)
- 5 days a week

Take home message

- Even very light exercise done for short periods of time bring health improvements.
- Try to be active almost every day
- This will help both your brain and body

Nutrition

- Being overweight or obese is linked to increased risk of several types of cancer (American Cancer Society: ACS) including: breast, colon, esophageal, kidney, liver, ovarian, pancreatic, stomach, thyroid
- 18% of all cancers and 16% of cancer deaths are related to excess body weight
- ACS states:
- Being overweight or obese is largely the result of taking in too many calories (from both food and beverages) and not burning enough calories, although a person's genes and changes in their metabolism as they age are also factors.

Nutrition

The ACS states:

- The dietary factors most often linked with excess body fat include sugar-sweetened beverages, fast foods, and “Western type” diets (diets high in added sugars, meat, and fat), whereas foods containing fiber and “Mediterranean” diet patterns may reduce risk.
- Aerobic physical activity, including walking, is linked with a lower risk of excess body weight, whereas sedentary behaviors (sitting and lying down) and more screen time (such as looking at a phone or computer, or watching TV) is linked with a higher risk.

Nutrition

Eating pattern from The American Cancer Society (https://www.cancer.org/cancer/risk-prevention/diet-physical-activity/acs-guidelines-nutrition-physical-activity-cancer-prevention/guidelines.html)

- Foods that are high in nutrients in amounts that help you get to and stay at a healthy body weight
- A variety of vegetables – dark green, red and orange, fiber-rich legumes (beans and peas), and others
- Fruits, especially whole fruits in a variety of colors
- Whole grains
- A healthy eating pattern limits or does not include:
- Red and processed meats
- Sugar-sweetened beverages
- Highly processed foods and refined grain products

New Research
Gut Microbiome and Mood

Your Gut microbiome or your intestinal track houses many bacteria and other microorganisms.

Research is suggesting a Gut-brain connection. Meaning what you feed yourself may affect your nervous system, immune system and mood. (https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-017-0791-y)

Subjects were: depressed, and had a “poor” diet.

Poor diet: low fiber, low fruits and vegetables, low lean protein, high in sweets, processed meat, and salty snacks

Gut Microbiome and Mood

- Subjects were randomly assigned to 12 weeks of:
- 1. Social support or
- 2. Diet intervention: dietary counseling, goal setting, and mindful eating with a clinical dietician
- 32% of patients in the diet group went into full remission of depression while only 8% of the support group patients did.
- The researchers report: “We report significant reductions in depressive symptoms as a result of the diet intervention. These effects appear to be independent of any changes in BMI, self-efficacy, smoking rates and/or physical activity.
- The authors suggest that an improved gut microbiome affects depression and mood.

Gut Microbiome and Mood

- In a meta-analysis on gut health and depression published in Molecular Psychiatry (https://www.nature.com/articles/s41380-018-0237-8), the researchers found:
- 33% reduced risk of depressive symptoms with a gut friendly diet and a pro-inflammatory diet (higher sugar and processed foods) increased the risk
- “To conclude, adhering to a healthy diet, in particular a traditional Mediterranean diet, or avoiding a pro-inflammatory diet appears to confer some protection against depression in observational studies.”

Nutrition

Take home message

- Healthy eating habits and physical activity may reduce the risk of cancer or it’s recurrence and may improve your mood

Sleep

- A recent study in the journal Sleep Medicine has shown a significant number cancer survivors have sleep problems and these problems can last years after treatment. (https://www.sciencedirect.com/science/article/pii/S1389945719303570?dgcid=raven_sd_via_email)
- The primary reason given for sleep problems was fear of cancer returning or distress from a physical, emotional, or financial issue related to cancer.
- Trouble sleeping can lead to serious problems for people with cancer, including lower quality of life, depression, and the inability to carry out regular day-to-day activities.
- Sleep problems are the worse during treatment
- However after treatment, 40 % of cancer survivors still have sleep problems 5 years after diagnosis.

Sleep

How much sleep do we need?

- Adults: 7-8 hours
- What does adequate sleep due?
  - Improves immune function
  - Performs maintenance on body cells to keep them healthy
  - Reduces the risk of depression, and cardiovascular disease
  - Enhances memory and focus, may help chemo-brain

Sleep tips

- Avoid eating heavy meals, spicy foods, or sugary items close to bedtime
- Avoid watching TV or working in the bedroom
- Remove electronic devices from the bedroom
- Make sure your bedroom is free from light and noise. Consider using earplugs or wearing a sleep mask
- Avoid smoking, and limit your caffeine intake
- Avoid drinking alcohol, especially 4-8 hours prior to bedtime
- Consider moving any clocks out of view of your bed

Sleep tips

- Go to bed and get up at the same time each day, seven days a week
- Limit daytime naps to 30 minutes and avoid napping in the late afternoon
- Get regular exercise, but don't exercise within three hours of your bedtime
- If you can't fall asleep, get out of bed, leave the bedroom, and return when sleepy
- Use relaxation techniques

Relaxation techniques to enhance sleep

Effective types of integrative therapies to try at bedtime include: muscle relaxation, biofeedback, imagery, hypnosis, and thought stopping.

- Talk about fears and worries early in the day, not at bedtime
- Use deep breathing exercises to help you relax
- Try gentle yoga
- Try taking a warm bath or drinking chamomile tea to aid in relaxation

New Research

- In a study that followed 9,000 subjects over 50 years old (English Longitudinal Study of Ageing, https://www.elsa-project.ac.uk/), researchers found that the cognitive improvement from physical activity was LOST in people who slept less than 6 hours a night.
- “Highly active people in their 50s and 60s who slept on average less than six hours a night lost the advantage that exercise provided — they declined more rapidly and had the same cognitive levels as people who didn’t exercise.”
- **Take home message:** 7-8 hours of sleep a night improves memory and health

Stress

“Americans are one of the most stressed out populations in the world. The current stress level experienced by Americans is 20 percentage points higher than the global average.” 55% of Americans are stressed during the day. Globally, Greece has the highest reported stress level at 59%” (American Stress Institute https://www.stress.org/)

Managing Stress for Cancer Survivors

- About 25% of cancer survivors have long term stress
- Stress can deteriorate mental health and accelerate unhealthy behaviors
- Research has found that people who experience chronic stress are often likely to show signs of depression, anxiety, overeating or under-eating, and sedentary lifestyles.
- Chronic stress can even cause physical problems such as headaches, insomnia, GI problems, rapid heart rate and fatigue.

Stress Reduction Activities

- Eat a healthy diet
- Exercise, particularly in groups
- Meditate
- Mindfulness: slow your mind down
- Deep breathing
- Yoga
- Which is best? The one that works for you!

New Research

A recent, 2023 study in JAMA (Association of Stress With Cognitive Function Among Older Black and White US Adults) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9993177/)

concluded

- “This cohort study suggests that increased levels of perceived stress are associated with both prevalent cognitive impairment and ICI (incident cognitive impairment) and that the association does not vary by age, race, and sex.”
- If your are under significant perceived stress, cognition is worse

Stress

- **Take home message:**

Reduce stress to improve health and cognition

Which area should I work on?

Exercise, Nutrition, Sleep, Stress Reduction

- Depends on the person
- Pick an area you need to work on
- Taking action is hard
- First step is very difficult: example: joining an exercise program
- You've taken a step by coming to the workshop (seeking information)
- Keep that momentum going
- Decide on an area or areas to work on and take the next step!

Take home messages

- Try to be active almost every day. This will help both your brain and body
- Healthy eating habits and physical activity may reduce the risk of cancer or it’s recurrence and may improve your mood
- 7-8 hours of sleep a night improves memory and health
- Reduce stress to improve health and cognition
- Use this workshop to continue your progress to improve quality of life!

Thanks and Questions?