

Survivorship

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A National Cancer Institute
Designated Cancer Center

FRED & PAMELA
BUFFETT CANCER CENTER



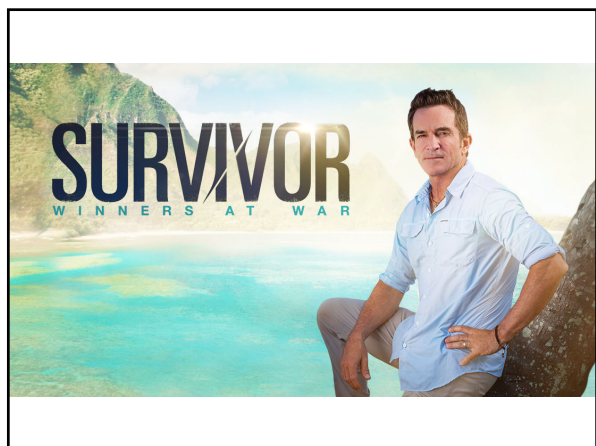
Let's Talk Survivorship

THE OFFICIAL HEALTHY BY
National Cancer Survivors Day™

16th Annual "Healthy
By" Campaign
Sunday, June 4, 2021

**National Cancer
Survivors Day**

FRED & PAMELA
BUFFETT CANCER CENTER



SURVIVOR
WINNERS AT WAR

Host: Mark Goodson

Who is a Cancer Survivor?

- An individual is considered a cancer survivor from the time of diagnosis, through the balance of his or her life.
- There are many types of survivors, including those living with cancer and those free of cancer.

NCI Survivor and Survivorship Definitions



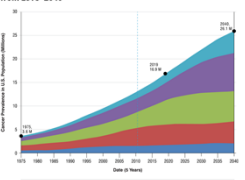

What we know about cancer survivors...

- It is estimated that there will be 22 million cancer survivors by 2030
- Approximately 1 in 4 cancer survivors report a decreased quality of life due to physical problems and 1 in 10 due to emotional problems.
- Certain groups of survivors, (racial/ethnic minorities and those of lower socioeconomic status) report greater difficulty regaining quality of life.
- Survivors diagnosed at a younger age tend to have poorer emotional functioning, whereas older age at diagnosis is often associated with poorer physical functioning.

Miller, Kimberly D., et al. "Cancer treatment and survivorship statistics, 2019." CA: a cancer journal for clinicians 69.5 (2019): 363-385.

Cancer Survivorship

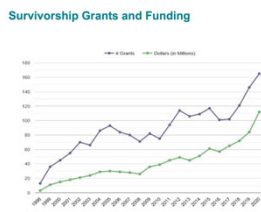
Cancer Prevalence and Projections in U.S. Population from 1975-2040

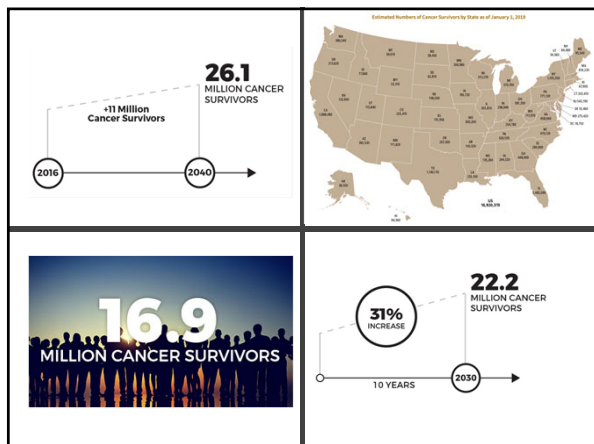


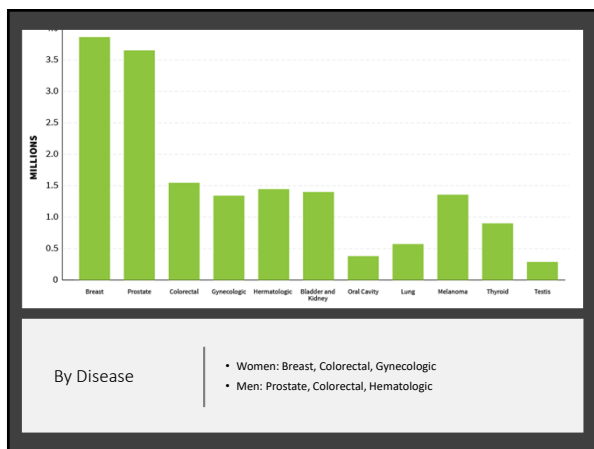
KEY

Age	Color
0-14	Red
15-24	Orange
25-34	Yellow
35-44	Green
45-54	Blue
55-64	Purple
65+	Dark Blue

Survivorship Grants and Funding







What we know about cancer survivors...


Survivors who minimize their exposure to cancer risk factors can reduce the risk of recurrence, progression, and additional cancers.

Effective integration of informal cancer caregivers into health care delivery teams is essential for optimizing outcomes for both survivors and their caregivers.

Miller, Kimberly D., et al. "Cancer treatment and survivorship statistics, 2018." *CA: a cancer journal for clinicians* 68.3 (2018): 363-385.

Survivorship Challenges

- Felt lost in the transition
- Lack of communication between oncologist and patient
- Lack of communication between oncologist and primary care
- Health risks after treatment were not explained
- Difficulty in restarting work or school



Report by the Institute of Medicine in 2006

PCP notes

#. Invasive ductal CA of the right breast, T1cN0M0, highly ER+/PR+
 -Follows with Dr. Reed, last seen 12/12/18.
 -Currently on tamoxifen

VS

#. Non-Hodgkins lymphoma, diagnosed 1975, s/p chemoradiation

#. Cancer survivorship
 -Anthracycline (450mg cumulative dose), cyclophosphamide (6.3gm cumulative dose)
 -Also vincristine and MTX (intrathecal) for some time
 -CNS radiation (brain) with 5870 rads, R clavicle radiation with 2400 rads
 -Needs EKG and ECHO annually (done 12/2020)
 -TSH (12/2020), lipid panel (12/2020), CBC w/ diff (12/2020), CMP (12/2020)
 -Annual dermatologic exam (follows with Dr. Sulewski)
 -Dental exam bi-annually
 -Baseline DEXA showed normal BMD in 12/2017
 -Monitor for mood disorder and secondary cancers

Survivorship Care Plan

- This prompted a national initiative to redesign how cancer patients are cared for through the course of their disease and beyond active treatment.

Cancer Treatment Team Members	
Pediatric Oncologist	Bruce O'Gorman, MD
Cancer and Pathology Information	
Diagnosis	Hodgkin disease
Diagnosis Date	April 2012 (age: 18)
Staging Information	Staging form: Hodgkin Lymphoma (pediatrics, COG - Clinical IIA)
Treatment Summary:	
Surgery	None
Chemotherapy	ABVE-PC x 4 cycles per COG AH000031 completed 7/2012 A = Doxorubicin (Adriamycin) B = Bleomycin V = Vincristine E = Etoposide P = Prednisone C = Cyclophosphamide
Radiation	bilateral neck and mediastinum 8/2012 - 9/2012, total 2100cGy

Why is a survivorship care plan needed?

- To summarize and communicate what transpired during cancer treatment
- To describe known and potential late effects of cancer treatments, with expected time course
- To communicate to the survivor and other members of the health care team what has been done and what needs to be done in the future
- To promote a healthy lifestyle to prevent recurrence and reduce the risk of the other co-morbid conditions

Oncology Follow Up Care: Imaging/Labs		
Imaging:	Date of Last Image/Lab:	Follow Up Recommendations:
CT scans:		only if clinically indicated
Labs		CBC, chemistry, thyroid function tests, lipid panel yearly
Mammogram & Breast MRI:		Yearly starting at age 25
Echocardiogram:		Every 2 years or per cardiology

Oncology Follow-up and Survivorship Care		
Follow Up Care	When / How Often?	Coordinating Provider
Medical Oncology Visits:	As needed	Dr. Gordon
Survivorship:	Yearly	Rachael Schmidt, APRN

Long Term/Late Effect Risks:

Chemotherapy:
 Secondary cancer (leukemia/solid tumor), Cataracts, Urinary Tract Toxicity, Bladder Cancer, Cardiac Toxicity, Peripheral Neuropathy, Osteoporosis, Osteonecrosis, Raynaud's Phenomenon, Pulmonary (Lung) Toxicity, Liver Toxicity, Fertility Issues, Sexual Health Concerns, Skin Changes

Radiation Fields:
 Hypothyroidism, Thyroid Cancer/Nodules, Carotid Artery Disease, Subclavian Artery Disease, Breast Cancer, Pulmonary Toxicity, Cardiac Toxicity, Esophageal Stricture, Scoliosis

Recommended evaluations:

- Monitor for recurrent secondary leukemia with **CBC yearly**.
- Monitor for secondary solid tumor with **physical exam yearly**.
- Monitor for cardiomyopathy and arrhythmia with **echocardiogram and EKG every 2 years. Blood pressure, cholesterol (lipid panel) and blood sugar screening 1-2 years.**
- Monitor and evaluate any new or concerning pulmonary issues including cough, shortness of breath, wheezing. Consider chest xray for new symptoms. **Yearly influenza vaccine.**
- Monitor for osteopenia/avascular necrosis (including annual musculoskeletal exam for pain or swelling). Consider **DEXA scan**; ensure adequate Vitamin D intake.
- Monitor for vision changes/cataracts with **vision history and optometry/ophthalmology evaluation every 1-2 years.**
- Urinalysis yearly. Evaluate for concerning urinary symptoms. Avoid alcohol and smoking which increases risk for bladder cancer.
- Monitor for hepatotoxicity at least annually with **physical exam** for jaundice, ascites, or hepatosplenomegaly; **liver function tests** if concerns arise. Limit alcohol intake.
- Refer to urologist and/or reproductive endocrinologist if needed for sexual health or infertility concerns.
- Monitor for skin changes. **Counsel to use sunscreen diligently.**
- Monitor for hypothyroidism due to radiation fields with **TSH and free T4 yearly.**
- Monitor for breast cancer due to radiation fields with **annual breast and axilla physical exam yearly**, regardless of age, **annual mammograms starting at age 25, and annual breast MRI** for women who have received chest wall radiation between the ages of 10 and 30.

The Improved Wholistic Approach



Surveillance in Survivorship

- Long-Term Effects:** Any persistent side effects or complications of cancer therapy after active treatment.
 - Numbness and tingling in the fingers and toes
 - Pain/Fatigue
- Late Effects:** toxicities that are absent or subclinical at the completion of active therapy but appear months to years later
 - Cardiac toxicities
 - Secondary Cancers

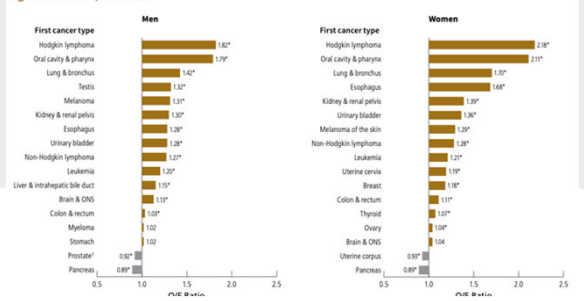




Second Primary Malignancies

- Neoplasm that arises independently in a new site or tissue at least 2 months after the primary cancer is diagnosed
- Lifetime risk for developing a SPM in cancer survivors is as high as 33%
- Environmental exposures, genetic predisposition, cancer treatment received

Figure 14. Observed-to-expected (O/E) Ratios for Subsequent Cancers by Primary Site and Sex, Ages 20 and Older, 1975-2015



- Approximately 1/4 of older adults >65 and 11% of younger adults newly diagnosed with cancer had a history of a prior cancer
- Prevalence of a prior cancer ranged from 3.5% to 36.9% according to incident cancer type and age, with most in a different cancer site

Examples of Increased New Cancer Risks by Treatment Type


- Radiation: Breast, colon, sarcoma, lung, skin cancers depending on exposed tissue
- Chemotherapy- Anthracycline- related leukemia
- Hormonal therapy: Tamoxifen-related endometrial cancer

Second Primary Malignancies


- Implications for APP:
 - Know the type of treatment cancer survivors have received
 - Utilize survivorship care plans for recommended screenings and individualized risk for late and long term effects
 - Encourage other age appropriate cancer screenings (colonoscopy, PSA, PAP, mammogram, lung)
 - Endorse practices to help reduce cancer risk (exercise, weight management, dietary modifications, and smoking cessation)

Cancer Related Fatigue


It's real. It's common. There's help.



40%
of cancer patients
have CRF at the time
of diagnosis



90%
of cancer patients
have CRF at some point
in their experience




30%
of cancer patients
have CRF for years
AFTER their treatment

Cancer Related Fatigue


1 If you're able, regular exercise are beneficial.




2 Take short naps of 30 minutes or less if needed.



3 Tasks are most important each day.




4 Ask for help when needed. Friends and family want to help you.




7 Tips to Help Fight Fatigue


Talk to your cancer care team if fatigue persists.



Deal stress via relaxation exercises, counseling and stress management training.



Eat healthily and drink plenty of water.



What can I do about Fatigue?

Fatigue, or extreme tiredness in cancer is not the same as the fatigue you have after being active in a other sports and does not get better with simple rest.

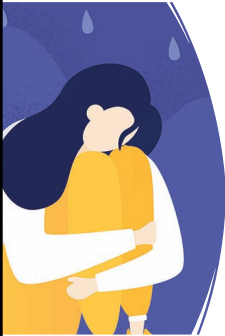
With fatigue, people may say their body and mind feel tired. This is a common problem that people have both during and after cancer treatment.

What works for fatigue?

- The **best** way to lessen fatigue is **exercise**. Do moderate exercise at least 3 times a week. Try to exercise a total of 20 to 30 minutes a day. It doesn't need to be done all at one time. Take a walk or do some other activity you enjoy. Talk to your doctor or nurse about what exercise is best for you.
- Tell your doctor or nurse if you are feeling tired or if your fatigue is getting worse. Fatigue can be caused by low red blood cells, called anemia, or hormone changes. These problems can be treated. Your doctor or nurse may order blood tests to see if you have these problems.

Other things that might help fatigue

- Massage or aromatherapy massage
- Yoga
- Ginseng, which is an herb. Ginseng interacts with a lot of other medicines, so you must check with your doctor or nurse before taking Ginseng to make sure it is safe for you.
- Manage your activity level and conserve your energy. Do any needed tasks when you have the most energy. **Take yourself!** Take time to rest in between times you are more active.

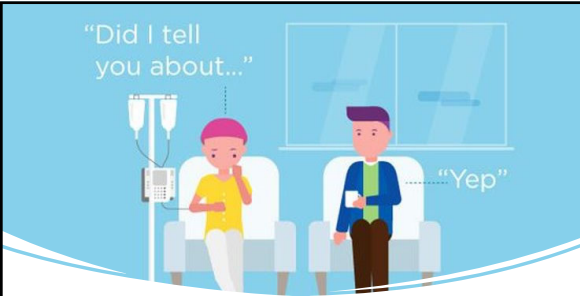


Psychological Challenges...

- Anxiety – nearly 100%
- Uncertainty/fear - 70%
- Depression
- Isolation
- Altered body image

Psychological Recommendations

- All patients should be screened at diagnosis and throughout their treatment especially with changes in disease or treatment status
- Depending on symptoms reported, different treatment pathways are recommended
- Failure to identify and treat anxiety and depression in cancer patients, increases the risk for poor quality of life and potentially increased disease-related morbidity and mortality



Cognitive Impairment

- “Chemo-Brain or Brain Fog”
- Estimated as high as 75% (non CNS cancers) to 90% (CNS cancers)

Cognitive Impairment

Non-pharmacologic Interventions:

- Exercise and Physical Activity
- Cognitive Training

Pharmacologic Interventions:

- Psychostimulants (Methylphenidate, Dexmethylphenidate, Modafinil, Armodafinil)
- Donepezil + Vitamin E

Chemotherapy Induced Peripheral Neuropathy

SYMPTOMS

CIPN affects activities of daily living and quality of life.



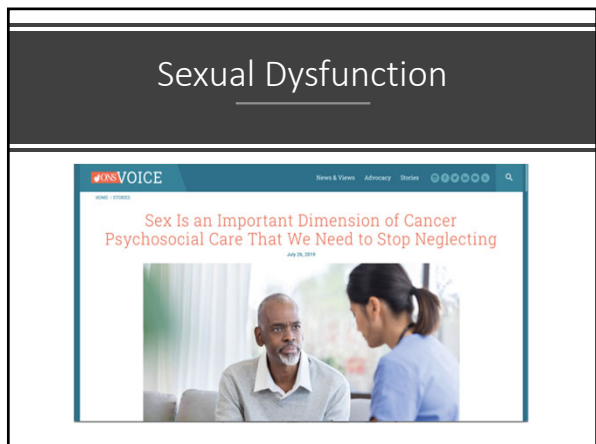
- Pain
- Burning
- Tingling
- Numbness
- Electric shock
- Pins and needles
- Temperature sensitivity

- 1/3 will develop CIPN
- Can be reversible but also could lead to long term effects on quality of life
- High Risk Agents:
 - Platinum drugs (cisplatin, carboplatin, and oxaliplatin)
 - Taxanes (Taxol)
 - Plant alkaloids (vinblastine, vincristine, vinorelbine, and etoposide)
 - Immunomodulating drugs (thalidomide, lenalidomide, pomalidomide)
 - Proteasome inhibitors (bortezomib, carfilzomib, and ixazomib)

Management & Education Recommendations for CIPN

- Evaluate balance
- Protect hands and feet from harm. Wear shoes and gloves. Use care when cooking, using the oven, and handling objects that are hot or cold.
- Be careful with sharp objects so you don't cut yourself.
- Don't expose yourself to water that is too hot since you may not feel how hot it is.
- Remove throw rugs so you don't trip on them.
- Be careful in the shower so you don't slip and fall.
- Stay as active as you can so you keep your muscles working.

Drugs	Dosage
Duloxetine	30 mg/day for 1 wk, increase to 60 mg/day
Tricyclic antidepressants	Amitriptyline: 25-100 mg/day; max dose 200 mg/day Nortriptyline: 10-25 mg/day initially; titrate to effective dose (usually 75 mg/day)
Anticonvulsants	Gabapentin: 300-900 mg/day; titrate to 3,600 mg/day Pregabalin: 150 mg/day initially; may titrate up to 600 mg/day (max dose)
Topical products	Compounded gel containing baclofen 10 mg, amitriptyline 40 mg, and ketamine 20 mg applied bid



Sexual Dysfunction

- 40% to 100% of cancer survivors experience some form of sexual dysfunction after cancer treatment
- Vaginal dryness, Vaginal stenosis, Dyspareunia, Early menopausal symptoms (hot flashes), Body Image, Decreased libido, and Erectile dysfunction
- Issues:
 - Clinicians do not ask patients about this, and patients feel uncomfortable about bringing up the topic
 - People who have sexual problems after cancer treatment are more likely to have poor quality of life and other issues, such as depression and lack of self-esteem

Osteopenia/ Osteoporosis

- Cancer therapies that cause bone loss:
 - Aromatase inhibitors
 - Androgen deprivation therapy
 - Chemotherapy (methotrexate, doxorubicin, cyclophosphamide)
 - Steroids
 - Radiation

Osteopenia
Bone density has begun to dwindle, but is not yet considered dangerous.

Osteoporosis
Bone density levels become critical and frequent fractures are likely.

Recommendations for Bone Health:

- Screen all high-risk patients
- Adequate Calcium and Vitamin D supplementation
- Checking Vitamin D levels
- DEXA scan
- Lifestyle modifications:
 - Weight bearing exercises
 - Smoking cessation
 - Limiting alcohol use

Cardiovascular Toxicity

Chemotherapy:

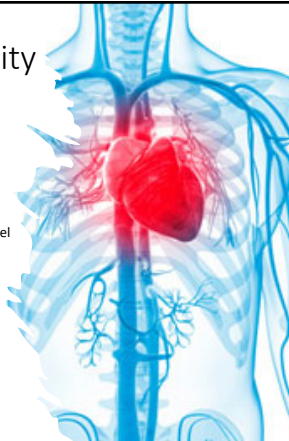
- **Anthracyclines:** Doxorubicin
- Antimetabolites: 5-Fluorouracil (5-FU)
- Alkylating Agents: Cyclophosphamide
- Platinum Agents: Cisplatin
- Antimicrotubule Agents: Paclitaxel, Docetaxel

Targeted Therapy:

- Monoclonal Antibodies: **Trastuzumab**, Bevacizumab

Radiation: to the chest

Cardio-Oncology - efforts to prevent or treat patients with cancer who face heart problems caused by cancer treatments





Pulmonary Toxicity

Chemotherapy:

- Bleomycin**
- Idarubicin
- Carmustine
- Methotrexate

Radiation:

Chest (fibrosis, pneumonitis)

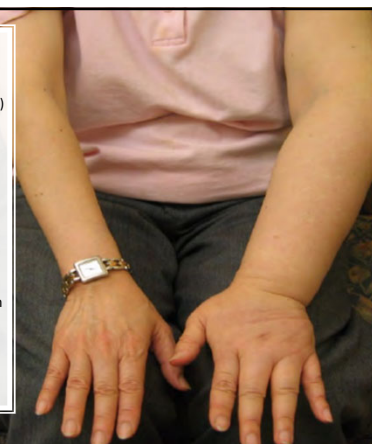
Lymphedema

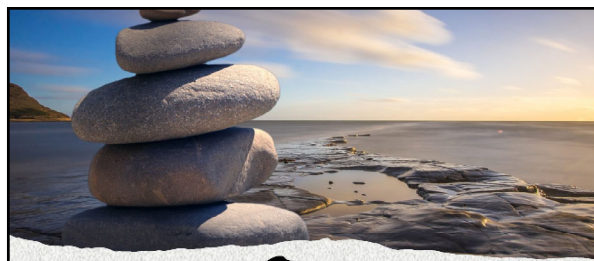
Condition in which fluid (lymph) is retained in the tissue and causes swelling (edema), often in the arms or legs.

The swelling occurs when a blockage in the lymphatic system prevents the fluid from draining adequately

Risk Factors:

- Lymph node removal (axillary and groin)
- Radiation therapy to lymph node areas
- Obesity
- Advanced cancers, intra-abdominal, intra-pelvic tumors






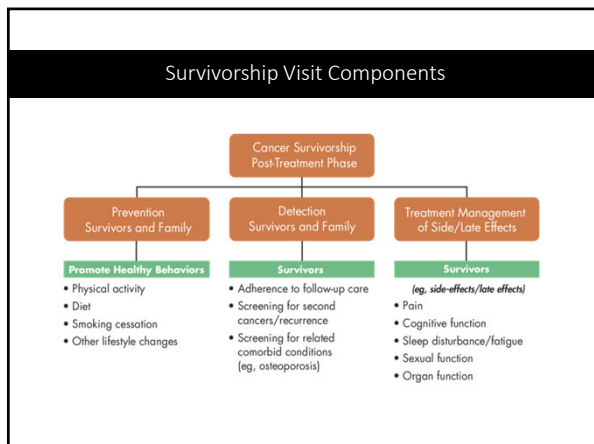
Existential/Spiritual Challenges

- Sense of purpose or meaning
- Appreciation of life

Social/Financial

- Changes in interpersonal relationships/family
- Concerns regarding health or life insurance
- Job loss/Loss of income
- Challenges with returning to work or to school
- Loss of savings





What other factors to consider?

- To truly understand the potential long term & late effects we must also understand the individual patient and how this can magnify their risk:
 - PMH/PSH: comorbid health conditions (CAD, DM, Obesity, etc)
 - Family Hx: Cancer syndromes (updated testing guidelines?), early CAD, DM/Metabolic Syndrome
 - Lifestyle: Sedentary, diet, social supports, coping, and resiliency
 - Habits: Smoking, alcohol, exercise

Nebraska Medicine Survivorship Program

Survivorship Clinic Options

- General
- Bone Marrow Transplant Long-Term Follow-up Survivorship Clinic
- Adult Survivors of Childhood Cancer

Wellness Needs for Cancer Survivors

- Cancer survivors are 2x as likely as the general population to report poor physical and mental health
- Cancer survivors are at high risk for other chronic diseases
 - 31% of cancer survivors ages 18 to 44 years were current smokers (19% in the general population)
 - 31% are obese
 - 38% report no physical activity in the past month
- Many cancer survivor needs are not addressed
- Leading cause of death for survivors is coronary artery disease



Leading the Charge in Cancer Prevention and Survivorship

CANCER SURVIVAL

Take Control of Your Health

Moving through a cancer diagnosis can be challenging and confusing. Arming yourself with information can help. AICR's library of resources can help you navigate questions about nutrition and lifestyle, and empower you to advocate for your health.

Resources

- Nebraska Medicine Survivorship Clinic
<https://nebraskamed.com/survivorship>
- Office of Cancer Survivorship
<https://cancercontrol.cancer.gov/ocs/statistics#stats>
- Cancer Survivorship E-Learning Series for Primary Care Providers
<https://smhs.gwu.edu/gwci/survivorship/ncsrc/elearning>
- NCCN Survivorship Guidelines
https://www.nccn.org/professionals/physician_gls/pdf/survivorship.pdf
- Children's Oncology Group (COG)
<https://childrensoncologygroup.org/index.php/survivorshipguidelines>
- American Institute for Cancer Research
www.aicr.org
- Oncolife Oncolink
<https://oncolife.oncolink.org>
- American Cancer Society Survivorship Care Guidelines App and Website
<https://www.cancer.org/health-care-professionals/american-cancer-society-survivorship-guidelines.html>

Questions?

Nebraska Medicine
Cancer Survivorship Program
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