An Internist’s Guide to the Care of the Patient Who Has Survived Cancer

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GOALS

• Learn about the field of Cancer Survivorship
• Understand the Current State of Survivorship Care and the Role of Primary Care Providers
• Learn about the Late Effects of Cancer and its Treatments and Diagnose and Manage Comorbidities
OVERVIEW OF SURVIVORSHIP

• Historically, 5 years after diagnosis
• From the moment of diagnosis through the balance of life including family and caregivers
• After active treatment
CANCER
SURVIVORS
IN MILLIONS

FEMALES

2014

- Breast
- Uterine Corpus
- Colorectal
- Melanoma
- Thyroid
- NH* Lymphoma
- Uterine Cervix
- Lung/Bronchus
- Ovary
- Kidney

2024

- Breast
- Colorectal
- Uterine Corpus
- Melanoma
- Thyroid
- NH* Lymphoma
- Uterine Cervix
- Lung/Bronchus
- Ovary
- Kidney

*Non-Hodgkin

American Cancer Society, 2014a
SURVIVORSHIP IN RELATIONSHIP TO DX

- **Female**:  
  - 0 to < 5 years: 30%  
  - 5 to < 10 years: 40%  
  - 10 to < 15 years: 20%  
  - 15 to < 20 years: 10%  
  - 20 to < 25 years: 5%  
  - 25+ years: 5%

- **Male**:  
  - 0 to < 5 years: 40%  
  - 5 to < 10 years: 30%  
  - 10 to < 15 years: 20%  
  - 15 to < 20 years: 10%  
  - 20 to < 25 years: 5%  
  - 25+ years: 5%

*American Cancer Society, 2014*
• Functional status
• Fatigue and sleep
• Overall physical health
• Fertility
• Pain

• Family distress
• Roles and relationships
• Affection/sexual function
• Appearance
• Isolation
• Finances / employment

• Control
• Anxiety
• Depression
• Fear of recurrence
• Cognition/attention

• Meaning of illness
• Religiosity
• Transcendence
• Hope
• Uncertainty
• Inner strength
# Psychosocial

<table>
<thead>
<tr>
<th>Psychosocial Issue</th>
<th>Risk Factors</th>
<th>Frequency</th>
<th>Interventions</th>
</tr>
</thead>
</table>
| Depression<sup>54</sup> | Female sex, higher number of coexisting conditions, negative body image, financial concerns, history of depression, sedentary lifestyle, loneliness | Common | Drugs: SSRIs, SNRIs, atypical antidepressants  
Nondrug interventions: cognitive behavioral therapy, mindfulness practice and stress-reduction therapy, hypnosis, physical activity, self-directed web-based interventions |
| Anxiety<sup>54</sup> | Female sex, higher number of coexisting conditions, younger age, shorter time since diagnosis, living alone, financial concerns, history of anxiety, lower functional status | Common | Drugs: anxiolytics, gabapentin  
Nondrug interventions: largely the same as for depression |
| Post-traumatic stress disorder<sup>55</sup> | Prior traumatic experience, unemployment, younger age at diagnosis, shorter time since diagnosis, depression, less social support, lower income, greater perceived negative impact of cancer | Common | Drugs: hydrocortisone  
Nondrug interventions: largely the same as for depression |
| Fear of recurrence<sup>56</sup> | Increased anxiety, less-effective coping skills, higher reassurance-seeking behaviors, increased family distress, lower educational level, knowledge of a survivor who had a recurrence | Common | Nondrug interventions: largely the same as for depression |
| Issues concerning return to work<sup>57</sup> | Older age, lower income, lower educational level, lower self-rating of health, chronic pain, depression, greater physical job demands (i.e., heavy labor), cancer treatment that causes physical limitations, cancer site that interferes with work | Common | Nondrug interventions: psychoeducational interventions (patient education and lessons in self-care), vocational services, and physical activity resulting in improved health-related quality of life and a greater likelihood of returning to work |
DEFINITIONS

• **Long-term effects** are medical problems that develop during active treatment and persist after the completion of treatment

• **Late effects** are medical problems that develop or become apparent months or years after treatment is completed
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Long-term side effects</th>
<th>Late side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemotherapy</td>
<td>Fatigue</td>
<td>Vision/cataracts</td>
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<tr>
<td></td>
<td>Premature menopause</td>
<td>Infertility</td>
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<tr>
<td></td>
<td>Sexual dysfunction</td>
<td>Liver problems</td>
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<tr>
<td></td>
<td>Neuropathy</td>
<td>Lung disease</td>
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<tr>
<td></td>
<td>“Chemo brain”</td>
<td>Osteoporosis</td>
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<td></td>
<td>Kidney failure</td>
<td>Reduced lung capacity</td>
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<tr>
<td></td>
<td></td>
<td>Secondary primary cancers</td>
</tr>
<tr>
<td>Radiation therapy</td>
<td>Fatigue</td>
<td>Cataracts</td>
</tr>
<tr>
<td></td>
<td>Skin sensitivity</td>
<td>Cavities and tooth decay</td>
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<tr>
<td></td>
<td>Lymphedema</td>
<td>Cardiovascular disease</td>
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<td></td>
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<td>Hypothyroidism</td>
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<td></td>
<td></td>
<td>Infertility</td>
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<tr>
<td></td>
<td></td>
<td>Lung disease</td>
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<tr>
<td></td>
<td></td>
<td>Intestinal problems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second primary cancers</td>
</tr>
<tr>
<td>Surgery</td>
<td>Sexual dysfunction</td>
<td>Body image disturbance</td>
</tr>
<tr>
<td></td>
<td>Incontinence</td>
<td>Functional disability</td>
</tr>
<tr>
<td></td>
<td>Pain</td>
<td>Infertility</td>
</tr>
</tbody>
</table>


### Table 1. Suggested Site-Specific Surveillance Recommendations for Cancer Survivors

<table>
<thead>
<tr>
<th>Disease Site</th>
<th>Recommendations</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head and neck cancer†</td>
<td>Physical examination every 1–3 mo for 1 yr, then every 2–6 mo for 2–5 yr and annually after 5 yr Baseline imaging 6 mo after completion of treatment Indirect laryngoscopy performed by an ENT physician periodically Low-dose CT scans for lung-cancer screening, indicated for persons at high risk because of a history of smoking</td>
<td>If new or persistent symptoms develop, imaging is performed as appropriate to the clinical situation</td>
</tr>
<tr>
<td>Breast cancer†</td>
<td>Physical examination every 3–4 mo for 3 yr, then every 6 mo for 2 yr, and annually after 5 yr Breast imaging annually Imaging or measurement of tumor markers is not indicated in women without symptoms; if new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
<tr>
<td>Prostate cancer§</td>
<td>Digital rectal examination annually for 5 yr PSA test every 6–12 mo for 5 yr Imaging in men without symptoms is not indicated; if new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
<tr>
<td>Colorectal cancer§</td>
<td>Physical examination and CEA test every 3–6 mo for 5 yr CT imaging of chest, abdomen, and pelvis annually for 3 yr Colonoscopy annually for 6 yr after surgery If new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
<tr>
<td>Non–small-cell lung cancer|</td>
<td>History taking and physical examination every 3–6 mo for 1–2 yr, then annually for 3–5+ yr Low-dose axial CT scanning every 6 mo for 1–2 yr, then annually for 3–5+ yr If new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
<tr>
<td>Testicular cancer|</td>
<td>Follow-up guidelines, which depend on histologic features (e.g., seminoma or nonseminoma) and stage If new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
<tr>
<td>Gynecologic cancer|</td>
<td>Follow-up guidelines, which depend on histologic features (e.g., endometrial, cervical, or ovarian cancer) and stage If new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
<tr>
<td>Lymphoma|</td>
<td>Follow-up guidelines, which depend on histologic features (diffuse large lymphoma, follicular lymphoma, or Hodgkin’s disease) and stage If new or persistent symptoms develop, imaging is indicated as appropriate to the clinical situation</td>
<td></td>
</tr>
</tbody>
</table>

* Regarding cancer treated with bone marrow transplantation, virtually every organ system may be affected by high-dose chemotherapy with autologous bone marrow transplantation. Specific surveillance guidelines for long-term and late effects of childhood cancers depend on organ site and exposure risk; in children who receive high-dose chemotherapy with autologous bone marrow transplantation, almost every organ system may be affected [1,13] (https://childrensoncologygroup.org/index.php/survivorship/guidelines). CEA denotes carcinoembryonic antigen, CT computed tomography, DXA dual-energy x-ray absorptiometry, ENT ear, nose, and throat, and PSA prostate-specific antigen.


‡ The recommendations are for women receiving Antiestrogen therapy.


¶ Surveillance with low-dose CT for more than 5 years is controversial.
ACS NUTRITION AND PHYSICAL ACTIVITY GUIDELINES FOR CANCER SURVIVORS

• Achieve and maintain a healthy weight: If overweight, limit consumption of high-calorie foods and beverages and increase physical activity to promote weight loss

• Engage in regular physical activity: Avoid inactivity and return to normal daily activities as soon as possible following diagnosis; Aim for aerobic exercise at least 150 minutes per week; Include strength training exercises at least 2 days per week

• Achieve a dietary pattern that is high in vegetables, fruits and whole grains

• Follow the guidelines for American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention
REHABILITATION FOR CANCER SURVIVORS

• Rehabilitation can significantly improve: Physical outcomes
• Psychological outcomes
• Quality of life outcomes
• Survivors have unmet needs related to rehabilitation
• Rehabilitation can be incorporated across the care continuum, even at diagnosis (prehabilitation)
• Patients should be referred to licensed/board certified rehabilitation health care professionals
# CARE COORDINATION

## Table 4. Models of Care Delivery for Cancer Survivors.*

<table>
<thead>
<tr>
<th>Model</th>
<th>Primary Responsibility</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-clinic care</td>
<td>Oncologist who provided cancer treatment also provides follow-up care</td>
<td>Patients prefer specialist care</td>
<td>Insufficient preventive health care</td>
</tr>
<tr>
<td>Care provided by midlevel clinician (NP or PA at disease-site clinic)</td>
<td>NP or PA provides cancer site–specific care in clinic where survivor received cancer treatment</td>
<td>Provider has experience with the specific cancer and has access to disease-site expert in real time; model is most suited to academic centers with cancer site–specific oncologists and clinics</td>
<td>Not well suited to general oncologists in community practices</td>
</tr>
<tr>
<td>Care provided by midlevel practitioner in separate clinic</td>
<td>NP or PA provides care for all cancer survivors in a separate clinic</td>
<td>Most efficient model in terms of use of resources; most suited to general oncologists who practice in academic settings, large community practices, or hospital-based practices</td>
<td>Providers must be familiar with surveillance guidelines and late and long-term effects of different cancers; access to disease-site experts may be limited and not in real time</td>
</tr>
<tr>
<td>Shared provision of care†,‡</td>
<td>PCP and oncologist provide coordinated care</td>
<td>Better communication between the oncologist and PCP results in improved care</td>
<td>Substantial barriers identified by PCPs†</td>
</tr>
<tr>
<td>Care provided in multispecialty clinic</td>
<td>Multiple specialists provide care in the same clinic (e.g., mental health practitioners, pain specialists, specialists in rehabilitation, and endocrinologists)</td>
<td>Patients prefer multispecialty care</td>
<td>Most inefficient model in terms of specialists’ time</td>
</tr>
</tbody>
</table>

* Information is from Nekhlyudov et al.† and Halpern et al.‡ NP denotes nurse practitioner, PA physician assistant, and PCP primary care physician.

† Barriers include lack of expertise, skills, and knowledge to provide care for cancer survivors and lack of standards for delivering such care.†,‡
SURVIVORSHIP CARE PLANS

• Key survivorship component
  Road map for post-treatment care
  Tool for care coordination and communication

Treatment Summary Follow-up

Treatment Summary + Follow-up Plan = Survivorship Care Plan
BOTTOMLINE

• Learn about the field of Cancer Survivorship
• Understand the Current State of Survivorship Care and the Role of Primary Care Providers
• Learn about the Late Effects of Cancer and its Treatments and Diagnose and Manage Comorbidities
REFERENCES


• Guidelines
  • Breast at bit.ly/BrCaCare
  • Colorectal at bit.ly/acscolorc
  • Head and Neck at bit.ly/acsheadneck
  • Prostate at bit.ly/ACSPrCa

• Cancer Survivorship E-Learning Series bit.ly/PCPE-Learning
REFERENCES

• National Cancer Survivorship Resource Center  
  www.cancer.org/survivorshipcenter

• Cancer Survivorship E-Learning Series for Primary Care Providers  
  bit.ly/PCPE-Learning

• ACS Prevention, Early Detection and Survivorship Guidelines  
  www.cancer.org/professionals