

# Chronic pain management in the cancer survivor

## Tips for primary care providers

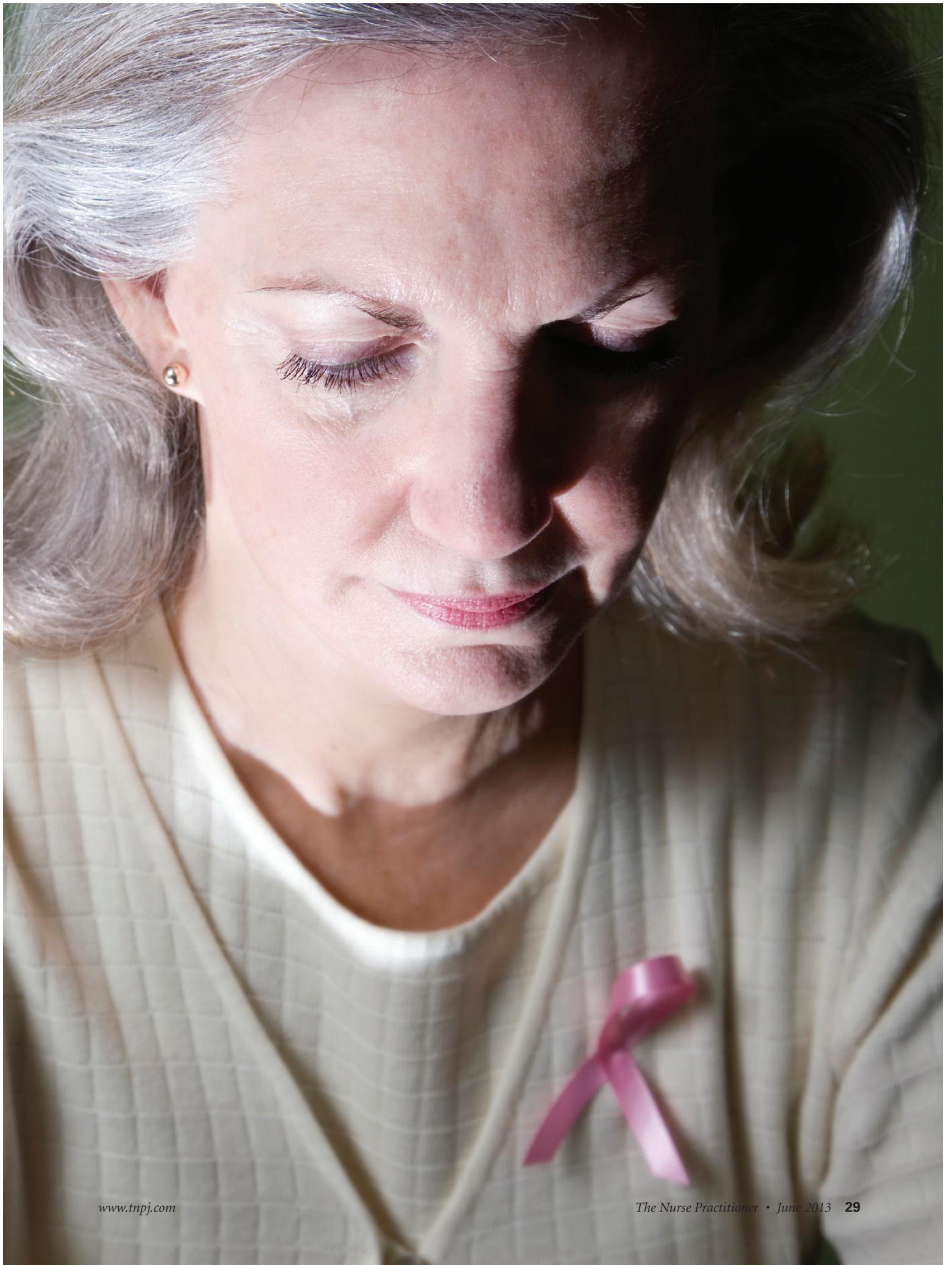
*Abstract: Many cancer survivors suffer from chronic pain related to treatment. Pain management in the survivor is similar to chronic noncancer pain, with the important caveat that new or worsening pain must be promptly assessed for malignancy. This article reviews cancer survivorship, identifies common pain problems, and discusses strategies for management.*

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**C**ancer survivorship is a growing field, as more people are successfully treated and survive long term.<sup>1</sup> However, many survivors must cope with significant long-term or late effects of cancer and cancer treatment, including pain.<sup>2</sup> The approach to chronic cancer-related pain (CCRP) builds on strategies similar to that of chronic noncancer pain (CNCP), with the important caveat that any new or changed pain must be promptly and thoroughly evaluated to rule out malignancy as the source.<sup>3</sup> While the total number of cancer survivors is increasing, there is an anticipated shortage of oncologists by the year 2020.<sup>4</sup> Thus, the long-term follow-up and management of chronic problems in survivors will more commonly be handled in the setting of primary care, and the nurse practitioner (NP) must become familiar with problems unique to this group.<sup>5,6</sup>

This article reviews issues of cancer survivorship and common chronic pain syndromes encountered in primary care, as well as some management strategies. Pain symptoms that may herald disease recurrence and require urgent evaluation will be discussed. Using a case study, an approach to opioid management for the cancer survivor will be examined.

**Key words:** cancer survivor, chronic cancer-related pain, primary care



### ■ Case study

Ms. J is a 52-year-old Black female with a history of Stage II-b right breast cancer. She underwent a partial mastectomy (lumpectomy) 18 months ago followed by chemotherapy and radiation. She completed treatment 1 year ago and has no current evidence of active cancer. She is on an aromatase inhibitor (AI), letrozole, for 5 years for prevention of breast cancer recurrence.

Ms. J complains of chronic, painful chemotherapy-induced peripheral neuropathy (CIPN) in her hands and feet, which she rates as a pain intensity of 6 on a 0 to 10 scale. She also notes significant arthralgia from the letrozole, 4/10 pain intensity, affecting the shoulders, hips, and knees, as well as a “tightness” in the right chest wall from radiation fibrosis. The pain impacts her quality of life, reduces her overall functionality, and contributes to fatigue. The CIPN is especially bothersome, as the associated pain and numbness in her fingers and hands impact her ability to enjoy her hobby as a sculptor.

During cancer treatment, Ms. J was prescribed opioids for pain. More than a year later, she remains on opioids, and the dose has been slowly escalated due to complaints of worsening pain. She is currently on extended-release morphine 15 mg tablets three times a day. In addition, she takes immediate-release morphine 15 mg tablets (1 to 2) every 4 hours as needed for pain, maximum limit of 4 tablets per day; however, she reports that she is actually taking 6 to 10 tablets per day. Gabapentin was previously tried at a



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starting dose of 300 mg three times daily, but Ms. J stopped it after 3 days, reporting she was too sleepy and that “it didn’t work.” She declines to try an antidepressant for CIPN, indicating that she is not depressed. She stopped exercising regularly during cancer treatment and has never restarted.

Ms. J remains unemployed, citing excessive pain and fatigue that prevent her from working. She lives alone, feels isolated, and no longer gets together with her friends.

At her visit to the Women’s Primary Care Clinic, Ms. J requested an increased dose of long- and short-acting morphine due to ongoing and worsening pain. What options are available? What additional information is needed?

### ■ About cancer survivorship

The National Cancer Institute created the Office of Cancer Survivorship in 1996 to support research into the unique

issues and needs of the cancer survivor and their caregivers. This website defines survivorship as beginning at the time of cancer diagnosis and extending through the balance of life.<sup>7</sup> However, this broad definition includes people with and without evidence of active malignancy.

When examining the long-term sequelae of cancer and cancer treatment, a more useful description of the cancer survivor refers to those affected by the following<sup>8,9</sup>:

- Have completed the active antineoplastic phase of their treatment (with the exception of AIs or tamoxifen for prevention of breast cancer recurrence)
- Have no evidence of disease
- Are under cancer surveillance
- The cancer pain syndrome is not related to active disease progression.

Chronic symptoms, such as fatigue and pain, occur frequently after cancer treatment, and may severely impact the survivor’s quality of life, function, vocational choices, and leisure activities.<sup>10</sup> Coping with these difficult symptoms is sometimes referred to as “the price of survival,” reflecting the mixed sentiments of gratefulness for survival while acknowledging the tremendous impact of the symptoms experienced<sup>11</sup> (see *Cancer survivorship overview*).

### ■ Pain in the cancer survivor

Reports of chronic pain are common in the cancer survivor and are typically a result of the cancer *treatment* rather than the disease itself. An analysis of the 2002 *National Health Interview Survey* in over 30,000 persons found the incidence of pain in cancer survivors was much higher (34%) than controls without a history of cancer (18%).<sup>12</sup> The highest prevalence occurs in post-thoracotomy (up to 80%), postamputation/phantom limb (50% to 80%), postneck dissection (52%), and breast cancer (63%) patients.<sup>9,13</sup>

### ■ Importance of attending to survivor pain

It is important for clinicians to promptly address new complaints of pain in the survivor to determine the cause, rather than taking the more conservative approach used in a patient with no history of cancer. For example, guidelines for assessment and management of acute low back pain (LBP) encourage delayed imaging and reevaluation in 1 month for those with nonspecific symptoms, as this problem is typically a self-limiting condition.<sup>14</sup> However, the approach to new-onset LBP in the patient with a history of cancer requires prompt evaluation to rule out a pathologic vertebral compression fracture or emergent conditions, such as epidural spinal cord compression (SCC) from vertebral

**Cancer survivorship overview**<sup>1,8-11,47-49</sup>**Definition:**

- For the purposes of this article, a cancer survivor is someone who has no evidence of disease, is not receiving active antineoplastic treatment, and is under cancer surveillance only.

**The number of cancer survivors is increasing:**

- The overall prevalence of long-term cancer survivors is increasing due to improved therapies. In addition, population growth and aging contribute to rising global incidence of new cancer diagnosis.

**The three most common sites for those living with a history of cancer in 2012 include:**

- Men: prostate cancer (43%), colorectal cancer (9%), and melanoma (7%)
- Women: breast (41%), uterine (8%), and colorectal (8%) cancer

**Physical symptoms in cancer survivors include:**

- fatigue
- chronic pain problems
- cognitive problems
- functional limitations
- alterations in sexuality and fertility

**Psychosocial impact of cancer survivorship:**

- depression and anxiety
- pervasive fear of cancer recurrence
- feelings of uncertainty and heightened sense of vulnerability
- employment challenges
- posttraumatic growth: positive feelings of gratitude, personal growth, improved self-esteem

**Survivorship Clinics:**

Many major cancer centers have clinics that specifically address the unique needs of the survivor. For example:

- Fred Hutchison Cancer Research Center/Seattle Cancer Care Alliance
  - <https://www.fhcrc.org/en/treatment/survivorship.html>
- MD Anderson Cancer Center
  - <http://www.mdanderson.org/patient-and-cancer-information/cancer-information/cancer-topics/survivorship/index.html>
- Memorial Sloan Kettering Cancer Center:
  - <http://www.mskcc.org/cancer-care/survivorship>

**Treatment Care Plans (TCP):**

The Institute of Medicine recommends that all patients be given a written TCP at the completion of therapy. The TCP provides a concise summary of all antineoplastic treatments received, including chemotherapy cumulative doses, radiation portal and dose, and surgeries. Ideally, the TCP includes information on possible long-term and late effects of treatment and recommendations for the frequency of ongoing cancer screening. Survivorship clinics (see above) provide survivors with detailed TCPs, or utilize the website below.

- Create your own Survivorship Treatment Care: Patients and providers may create a TCP in English or Spanish at <http://www.livestrongcareplan.org/>

**Survivorship websites:**

- LiveStrong: The Lance Armstrong Foundation ([www.LiveStrong.org](http://www.LiveStrong.org))
- National Cancer Survivorship Resource Center/ American Cancer Society (<http://www.cancer.org/treatment/survivorshipduringandaftertreatment/nationalcancersurvivorshipresourcecenter/index>)
- National Cancer Institute Office of Cancer Survivorship (<http://dccps.nci.nih.gov/ocs/>)

body metastasis. This is especially true in cancers that are most likely to metastasize to the bone, including prostate, breast, and lung cancer.<sup>15</sup> Although rare in the setting of cancer remission or cure,<sup>16</sup> SCC may be the first indication of metastatic disease and is associated with a 100% incidence of hemi- or quadriplegia if not diagnosed and treated promptly.<sup>17</sup>

Signs and symptoms that warrant prompt assessment in the cancer survivor include<sup>15,18</sup>:

- a new or worsening pain
- pain worse at night or with recumbency
- signs of possible SCC:
  - new-onset or worsening back pain (especially thoracic pain), or pain in a band around the torso, pain worse with Valsalva maneuver
  - progressive neurologic deficits such as saddle anesthesia (numbness in the S-2 dermatome: perineum, lower

- buttocks, posterior proximal thighs); sensory changes in the arms or legs; weakness, including a sense of “heaviness” or “clumsiness” of the limbs, or stumbling gait
- bowel or bladder changes (lax anal sphincter with fecal incontinence or overflow urinary incontinence).
- Associated symptoms concerning for malignancy:
  - unexplained weight loss more than 10 lb (4.5 kg), night sweats, fevers and chills, enlarging masses, or unusual fatigue.
  - additional worrisome symptoms include excessive bruising or bleeding, change in moles or skin, altered bowel function, difficulty swallowing, persistent cough, or hoarseness.

**■ First, establish the cause of the pain**

As with any pain problem, the first task is to determine the source of the pain, and, in the survivor, establish that

**CCRP syndromes and treatments in the survivor**<sup>6,9-11,17, 20-24,26,29,33,36,50-53</sup>

System affected	Pain syndrome	Characteristic Cancer type or patients at risk	Sources of pain in the cancer survivor	Treatments # <i>* Note:</i> Nonpharmacologic therapies should be considered for all pain syndromes (see below)
<b>Neurologic</b>	Painful CIPN	<ul style="list-style-type: none"> <li>• Breast</li> <li>• Ovarian</li> <li>• Colorectal</li> <li>• Lymphoma</li> <li>• Multiple-myeloma</li> </ul>	Chemotherapy, such as: <ul style="list-style-type: none"> <li>• Vinca alkaloids (for example, vincristine)</li> <li>• Platinum compounds (for example, cisplatin)</li> <li>• Taxanes (for example, paclitaxel)</li> <li>• Other agents (for example, thalidomide)</li> </ul>	<ul style="list-style-type: none"> <li>• Antidepressants</li> <li>• Antiepileptic drugs</li> <li>• Topical agents</li> <li>• Consider opioids</li> <li>• Physical or Occupational therapy for gait training and fall prevention</li> <li>• Driving safety assessment</li> </ul>
	Postoperative pain syndromes: postmastectomy, postthoracotomy, postradical neck dissection, postamputation (phantom limb pain), stump pain	<ul style="list-style-type: none"> <li>• Breast</li> <li>• Lung</li> <li>• Head/neck</li> <li>• Sarcoma</li> </ul>	Surgery	<ul style="list-style-type: none"> <li>• Antidepressants (SNRI or TCA)</li> <li>• Antiepileptic drugs</li> <li>• Lidocaine 5% patch</li> <li>• Consider opioids</li> <li>• Physical therapy to maintain shoulder and joint ROM</li> <li>• Interventional blocks in some cases</li> </ul>
	Postherpetic neuralgia (PHN)	All cancers, especially hematologic malignancies, lymphoma, and those who have received an HCT	<ul style="list-style-type: none"> <li>• Immunosuppression from chemotherapy causing herpes zoster (HZ or "shingles") outbreak.</li> <li>• HZ and resulting PHN may preferentially occur at the site of radiation treatment or surgery.</li> </ul>	<ul style="list-style-type: none"> <li>• Antidepressants</li> <li>• Antiepileptic drugs</li> <li>• Topical agents</li> <li>• Consider opioids</li> <li>• Physical therapy to maintain joint ROM</li> <li>• Interventional blocks</li> </ul>
<b>Rheumatic/ Myofascial</b>	Migratory noninflammatory myalgia and arthralgia	HCT  All cancers may cause deconditioning	<ul style="list-style-type: none"> <li>• Aromatase inhibitors (AI)</li> <li>• Corticosteroids and steroid taper</li> <li>• High dose cyclophosphamide</li> <li>• Deconditioning</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise, aerobic stretching and strengthening</li> <li>• NSAIDs (oral), acetaminophen, topical agents</li> <li>• Physical therapy</li> <li>• Vitamin D</li> </ul>
	Radiation fibrosis causing painful restriction	Breast Lymphoma Head/neck	Radiation fibrosis may develop years after treatment.	<ul style="list-style-type: none"> <li>• Physical therapy for ROM, stretching and strengthening</li> <li>• Massage</li> </ul>
<b>Lymphatic</b>	Pain or discomfort from lymphedema	Breast Pelvic and colorectal tumors	Surgery, axillary, or inguinal node dissection; or radiation therapy	<ul style="list-style-type: none"> <li>• Compression garments,</li> <li>• Manual lymphatic drainage</li> <li>• Physical therapy</li> </ul>
<b>Skeletal</b>	Osteoporosis	<ul style="list-style-type: none"> <li>• Postmenopausal women</li> <li>• Prostate cancer</li> <li>• Radiation therapy</li> </ul>	Increased risk of fracture causing painful conditions such as vertebral compression fracture	<ul style="list-style-type: none"> <li>• Bisphosphonates</li> <li>• Vitamin D + calcium supplementation,</li> <li>• Estrogen supplementation in selected patients</li> </ul>

(Continued...)

CCRP syndromes and treatments in the survivor <sup>6,9-11,17, 20-24,26,29,33,36,50-53</sup> (Continued...)				
System affected	Pain syndrome	Characteristic Cancer type or patients at risk	Sources of pain in the cancer survivor	Treatments #
	Avascular necrosis of femoral head, humeral head, knee	HCT	Long-term or high-dose corticosteroid administration, childhood ALL	<ul style="list-style-type: none"> <li>• Opioids, NSAID, Physical therapy,</li> <li>• May require joint replacement (hip, knee, shoulder)</li> </ul>
<b>Genital</b>	Dyspareunia	<ul style="list-style-type: none"> <li>• Breast, cervical, ovarian</li> <li>• Postmenopausal ovarian failure from chemotherapy or surgery</li> </ul>	<ul style="list-style-type: none"> <li>• Decreased vaginal lubrication</li> <li>• Vaginal stricture from pelvic radiation or surgery</li> </ul>	<ul style="list-style-type: none"> <li>• Vaginal lubricants</li> <li>• Vaginal dilators</li> <li>• Topical vaginal estrogen (consult with oncologist if allowed in a history of breast cancer)</li> <li>• Couples therapy</li> </ul>

Key: Antidepressants: SNRI = serotonin norepinephrine reuptake inhibitors (e.g. duloxetine), TCA = tricyclic antidepressants (e.g. nortriptyline); ROM = range of motion; HCT = hematopoietic cell transplant, e.g., bone marrow or stem cell transplant; ALL = acute lymphoblastic leukemia

# Most treatments listed above are not FDA-approved

\*Nonpharmacologic and complementary therapies should be considered for all pain syndromes as appropriate. These include techniques such as mindfulness, relaxation and breathing training; aerobic and strengthening exercises; transcutaneous electrical nerve stimulation (TENS) unit; physical and occupational therapy; complementary therapies such as massage and acupuncture.

it is not related to active cancer (see *CCRP syndromes and treatments in the survivor*). The three primary types of pain are as follows<sup>19</sup>:

- neuropathic (abnormal nerve impulses, commonly from chemotherapy)
- nociceptive/somatic (involving muscles, bone, connective tissue)
- nociceptive/visceral (involving organs, such as liver or pancreas)

Listed below are several pain syndromes commonly seen in the cancer survivor:

- CIPN is a frequently encountered problem in primary care. This manifests as a symmetrical distal sensory neuropathy in a “stocking-glove” distribution. CIPN may be painful (burning, shooting) or nonpainful (numbness). Patients at higher risk for developing CIPN are those with the following<sup>20</sup>:
  - preexisting painful neuropathy from diabetes or other cause
  - higher cumulative doses of neurotoxic chemotherapy agents
  - combination of multiple neurotoxic agents
  - older age.
- Neuropathic pain syndromes associated with surgery include postmastectomy, postthoracotomy, postradical neck, and postamputation pain syndromes.<sup>3</sup> The pain

usually declines over months to years but may persist for the patient’s lifetime. Other less common neuropathic pain syndromes include brachial or lumbosacral plexopathy.

- Myofascial pain syndromes related to cancer treatment are a frequently overlooked source of somatic pain in the survivor. This problem results from tissue scarring and fibrosis caused by radiation or surgery. For example, radiation fibrosis is a significant cause of shoulder dysfunction, limited range of motion, and associated pain in the shoulder and chest wall<sup>21</sup>; it is observed in persons treated for breast cancer, Hodgkin lymphoma, or head and neck cancers. Interestingly, myofascial problems may develop months or years after completion of treatment.

**Myofascial pain syndromes related to cancer treatment are a frequently overlooked source of somatic pain in the survivor.**



- Myalgia and arthralgia are common in breast cancer survivors taking AIs (such as letrozole, exemestane, or anastrozole). This therapy is prescribed for 3 to 5 years after completion of treatment to prevent disease recurrence. The high incidence (up to 47%) of AI-associated chronic

musculoskeletal pain impacts patient adherence with the plan of care in 20% of patients.<sup>22</sup> A comprehensive pain management strategy will encourage long-term adherence to the AI therapy, and, thus, may reduce the risk of breast cancer recurrence.<sup>23</sup>

- Lymphedema is a common long-term problem for cancer survivors and a source of discomfort in those treated for breast, head and neck, or pelvic tumors.<sup>24</sup> This condition responds to manual lymphatic drainage and compression garments.
- Osteoporosis is a concern in cancer survivors. Chemotherapy, surgery, or radiation may induce ovarian failure and menopause in women; androgen-deprivation therapy for biochemical relapse (or metastatic) prostate cancer is a source in men. Osteoporosis increases the risk of painful vertebral compression fractures or other bone fractures, leading to chronic pain.<sup>9</sup>
- Dyspareunia is a frequent issue due to vaginal dryness, vaginal atrophy, or stricture associated with ovarian failure

or radiation therapy.<sup>25,26</sup> The clinician should specifically ask about concerns with sexuality, sexual function, and dyspareunia, as patients may not feel comfortable initiating this discussion.

- Radiation-induced visceral pain syndromes include chronic proctitis, cystitis, enteritis, or tenesmus.<sup>9</sup>

#### ■ Hypervigilance and anxiety in the cancer survivor

Some survivors may become hypervigilant of their bodily sensations, and present frequently to the clinic with reports of new symptoms, fearful of cancer recurrence.<sup>27</sup> Most survivors are aware that pain can be an early sign of cancer recurrence and have been taught to report these symptoms promptly. Emotional distress, depression, anxiety, and fear may contribute significantly to the resulting pain experience.<sup>3</sup> An individualized approach to each patient is needed in this setting to determine the proper frequency of radiologic imaging and other surveillance monitoring. Oncologist collaboration is useful to help in making this determination.

### Key points in managing pain in the cancer survivor

1. "Be certain of the source of pain!"
  - Investigate all new, changing, or worsening pain problems to rule out cancer recurrence.
2. Reassure and redirect the patient
  - Patients who have experienced cancer are understandably fearful that pain is from a cancer source. Once cancer recurrence has been eliminated, provide education and reassurance. Redirect the patient to optimizing overall health with exercise, proper diet, and balanced living.
  - Address anxiety and depression, as these issues impact the pain experience.
  - Provide reassurance of ongoing coordination with the oncologist to regularly monitor for cancer recurrence.
3. Utilize an individualized multimodal approach to pain management\*
  - Antidepressants, antiepileptic drugs, or topical agents for neuropathic pain.
  - Acetaminophen, NSAIDs (such as celecoxib, naproxen, or ibuprofen), or topical agents for somatic nociceptive pain sources. (See text for precautions.)
    - Nonpharmacologic therapies are helpful for all types of pain, especially myofascial pain. These include physical or occupational therapy, aerobic and strengthening exercises, thermal (hot or cold) compresses, massage, and transcutaneous electrical nerve stimulation (TENS) therapy. TENS is a method of pain relief that uses a portable battery-operated unit that provides mild electrical stimulation to "distract" the brain from sensing pain input.
4. Opioids: utilize a *chronic pain model* instead of an *acute cancer pain model* for the disease-free cancer survivor with long-term chronic pain.
  - Opioids may be appropriate if other modalities are not fully effective as third-line therapy.
  - The focus is on stable, non-escalating doses, with a goal to reduce the opioid dose to the lowest therapeutic level.
  - Avoid repeated dose escalations if there is no progressive pathology. If opioid tolerance is suspected, consider rotation to a different opioid.
  - As in chronic, noncancer pain, use of a written Controlled Substances Provider-Patient Agreement and Informed Consent document is recommended. Screening for risk of opioid misuse, including psychosocial issues that may impact opioid use patterns, is essential. Consider urine drug testing to assess for the presence or absence of prescribed, nonprescribed, or street drugs.
  - For more information, see the American Pain Society Opioid Treatment Guidelines.<sup>35</sup>
5. Never become complacent about the survivor's complaints of pain. Always consider cancer recurrence in the differential diagnosis.

\* Note: There are no FDA-approved drugs specifically for chronic cancer related pain or chemotherapy induced peripheral neuropathy.

In contrast, some survivors may underreport pain problems for the same reason: Fear of cancer recurrence.<sup>28</sup> This requires careful questioning by the clinician to obtain an accurate assessment of the situation.

### ■ Managing pain in the cancer survivor

Once the provider is assured that the pain does not represent recurrent disease, a pain management plan can be developed. Management of CCRP is emerging as a new field that builds on strategies more akin to that of CNCP, along with functional restoration using a rehabilitation model.<sup>3</sup> The important exception, as noted above, is the requirement to promptly and thoroughly evaluate new pain reports for possible malignancy (see *Key points in managing pain in the cancer survivor*).

Survivors with chronic pain are encouraged to actively participate in their pain management plan of care and utilize a broad range of therapies.<sup>29</sup> These methods include a multimodal approach to pain care with an emphasis on self-activation and nonpharmacologic therapies. Strategies include regular aerobic activity, thermal therapy, and home physical therapy stretching and strengthening exercises. Counseling to address anxiety, depression, coping, and complementary therapies, such as acupuncture, massage, and yoga are additional supportive approaches. In selected patients, interventional modalities may be considered, including nerve blocks, trigger point injections, spinal cord stimulators, or implanted intrathecal pumps.<sup>9,30</sup> Medication options include the adjuvant agents: antidepressants, antiepileptic drugs, and topical agents in addition to non-steroidal anti-inflammatory agents and acetaminophen.<sup>22</sup> While opioids are utilized in this setting, their use is deemphasized.<sup>3</sup>

### ■ Why can't you just give me more morphine?

Survivors may express confusion and frustration as they note a shift away from opioids as the primary approach to management of pain. During acute cancer treatment, the drug of choice for moderate-to-severe pain is an opioid, and reports of increased pain are typically addressed by increasing the opioid dose, with adjuvant agents added as appropriate.<sup>31,32</sup> However, while opioids are utilized for the survivor with chronic pain, the focus changes to one of stabilizing and reducing the total opioid dose, rather than providing ever-escalating dosages. In this way, the approach to chronic opioid therapy (COT) in a survivor builds on the strategies utilized for the management of CNCP.<sup>33</sup> It is important for the primary care provider to understand that

there is no "mandate" to prescribe opioids to the survivor with CCRP.<sup>34,35</sup> Opioid therapy is a useful tool but is not the only treatment strategy available.

It is essential that the clinician carefully explains the rationale for changing the model of care from one of primarily opioids with escalation-upon-demand to one of multimodal therapies as noted above. Clinicians should explain that emerging evidence does not support the use of chronic opioids as the sole therapy for chronic pain due to concerns regarding long-term adverse reactions, such as hypogonadism.<sup>34</sup> The patient's fears and concerns must be addressed, questions answered, and plan of care negotiated. This discussion may take several visits to accomplish in order to reach a plan of care that is mutually agreeable.

### ■ Medications for CCRP

There are no FDA-approved medications specifically for CCRP. Treatment of CIPN has typically followed recommendations for painful diabetic peripheral neuropathy (DPN), including the FDA-approved drugs pregabalin and duloxetine; gabapentin is used off-label for DPN. A recent study showed duloxetine to be effective in CIPN.<sup>36</sup> Unfortunately, gabapentin for management of CIPN pain

*Survivors with chronic pain are encouraged to actively participate in their pain management plan of care.*



has not been shown to be effective.<sup>37</sup> Use of duloxetine, however, appears to be showing promise in CIPN.<sup>36</sup> Patient education when using antidepressants or antiepileptic drugs includes the need to titrate doses and a delay until pain relief is achieved.<sup>19</sup> For example, duloxetine takes 1 to 2 weeks to start noticing a pain-relieving effect, as does gabapentin, if started at lower doses.<sup>38</sup> Pregabalin is an exception, with pain relief noted in as little as 2 days.

Acetaminophen may improve mild-to-moderate pain for some patients. Review of hepatic and renal function is necessary, with dose reduction, or discontinuation, for abnormal values or in the setting of excessive alcohol intake. Recent evidence suggests that chronic use of acetaminophen should be limited to 3,250 mg per day or less, especially in older patients.<sup>39,40</sup> To avoid inadvertent overdose, which could lead to liver injury, the provider should carefully assess for acetaminophen-containing over-the-counter medicines (such as products for migraine headaches, cold and flu), or prescribed combination products (such as hydrocodone/acetaminophen).<sup>41</sup>

Nonsteroidal anti-inflammatory drugs (NSAIDs) may aid in management of myofascial and skeletal pain but should be administered cautiously when given on a chronic basis. These drugs are generally contraindicated in the patient on anticoagulant therapy, or with a history of gastroduodenal bleeding, and must be dose-reduced or avoided in those with chronic kidney disease.<sup>42,43</sup> The benefit-to-burden ratio must be carefully weighed when considering

Ms. J has struggled with anxiety and depression in the past, as well as a remote history of alcohol abuse and recreational drug use (including cannabis, cocaine, methamphetamine, but no injected drugs), and has several family members with similar struggles. Ms. J has been clean and sober for 8 years but admits she recently has felt tempted to start drinking alcohol again, although she has not. To specific questioning, she denies using recreational drugs, obtaining additional



***The role of psychosocial distress in escalating the survivor's pain experience must be explored.***

opioids on the street, or sharing or selling her opioid prescriptions to others. Ms. J reports she is feeling more anxious and out-of-control lately due to worries that the breast cancer will return in addition to financial and personal relationship issues. With careful questioning, the NP helps Ms. J understand

chronic use of NSAIDs in the patient with hypertension or heart failure due to the potential exacerbation of these conditions. NSAIDs should be avoided in older adults due to age-related renal impairment and the potential risk of inducing renal failure.<sup>40</sup>

that she has been using opioids to cope with excessive anxiety rather than pain control. "The morphine just helps me to chill out, you know? It helps me not to worry so much."

**Plan of care:**

Topical NSAIDs may be an option for those with musculoskeletal pain. Diclofenac epolamine patch (FDA-approved for acute pain from minor sprains and strains) delivers medication to the site of pain with minimal systemic absorption.<sup>44</sup> Other topical agents that may aid in management of postsurgical pain syndromes include lidocaine 5% topical patch (FDA-approved for post-herpetic neuralgia) or capsaicin cream (FDA-approved for musculoskeletal pain), which are applied directly to the site of pain.<sup>45</sup>

1. The provider reassures Ms. J that there are no findings indicating cancer recurrence and reviews the plan for ongoing close monitoring that will be provided. She normalizes the feelings of fear and uncertainty about cancer recurrence and encourages Ms. J to consider joining a breast cancer survivor support group to learn new coping strategies for the anxiety. This group also offers a free weekly workout program with a certified trainer, which will help reduce the anxiety, excess weight, and chronic pain.

**■ The impact of psychosocial stressors on the pain experience**

As with CNCPT, the role of psychosocial distress in escalating the survivor's pain experience must be explored. After conducting a thorough evaluation, the survivor must be reassured that the chronic pain is indeed "real," that their report is believed, but the source is from effects of cancer treatment, and not from cancer recurrence. Helping the patient understand the contribution of psychosocial stressors to the pain experience is essential and may aid in their acceptance of treatment for depression, anxiety, and posttraumatic stress disorder that may contribute to hypervigilance. A focus on regular exercise, and utilization of mindfulness techniques, such as imagery, relaxation, and breathing practices, will improve the sense of overall well-being, and may decrease the need for pain medications.

2. She diagnoses Ms. J with anxiety and depression and discusses strategies for management, including counseling, regular aerobic exercise, and pharmacologic management. Patient education is provided regarding the proper utilization of opioids to treat pain but emphasizes that escalating opioid use is not appropriate for coping with anxiety, stress, and uncertainty. She relates that this is called "chemical coping" (or "self-medicating") and points out that it is not beneficial to Ms. J in the long run.<sup>46</sup>

**■ Case study outcome**

After obtaining a detailed history and physical exam, including review of recent imaging studies, the NP discovers that

3. A multimodal pain management strategy is discussed in detail. A plan of care is initiated that includes duloxetine 30 mg daily to treat anxiety, depression, and painful neuropathy. An exercise program, which includes aerobic and strengthening workouts, is recommended, as it will aid the AI-induced myalgia and arthralgia. Future medication considerations for pain include the addition of acetaminophen and/or naproxen for myalgia and arthralgia, and possibly a trial of pregabalin. Future training in mindfulness therapies and an acupuncture trial are also discussed.

4. Ms. J agrees to reduce the opioid use back down to the current prescribed doses but expresses concern about her ability to do this. The provider institutes 2-week prescription quantities for a period of time to help Ms. J maintain the agreed-upon plan and dosing limits. The NP gives Ms. J a written Controlled Substances Agreement and Informed Consent and asks her to review it at home. This form includes patient and provider responsibilities and clinic policies related to opioid prescriptions (for example, call 3 business days in advance for renewals and no early renewals for lost prescriptions). Additionally, the informed consent details the risks and benefits of treatment, management of medication adverse reactions, and issues that warrant a phone call. The provider points out that the agreement includes consent for occasional urine drug screens.
5. A follow-up visit is scheduled in 2 weeks to answer questions, review, and sign the agreement. She reassures Ms. J that use of the opioid consent is standard practice in the clinic for those receiving COT for chronic pain and is not meant to be punitive in nature. Rather, it is a way to communicate expectations clearly.

### ■ Moving forward

Management of chronic pain in the cancer survivor is an emerging field, with growing numbers of patients who, although free from disease, continue to suffer from treatment-related pain. Clinicians, especially those in the fields of primary care and women's health, should expect to see more survivors in their practice. Research is needed to direct providers in the best approach for treatment of CCRP, especially CIPN. Until more data are available, pain management strategies for the survivor follow the general guidelines for the patient with CNCP. The one major departure is that any new or worsening pain problem must be promptly assessed for cancer recurrence as the source. The NP is uniquely situated to provide holistic care to the cancer survivor. This includes addressing the physical as well as the psychosocial impact of malignancy and assisting the survivor in his or her journey from illness to wellness. **NP**

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