

Introducing palliative care into cancer treatment

The implementation of palliative care into the treatment of a person with cancer offers holistic and comprehensive treatment that can address the patient's needs by improving quality of life while also alleviating symptoms.

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LF, a 60-year-old female, presents to the ED with complaints of constipation, lower left abdominal pain, and sharp/stabbing groin pain rated as an 8/10 on the numeric rating scale for the past 48 hours. The patient also complains of nausea and vomiting (N/V) and has been vomiting brown, undigested liquid for the past 2 days. LF has a medical history of hypertension, a myocardial infarction within the last year, chronic back pain with sciatic pain, and ovarian cancer. The patient's surgical history includes a total abdominal hysterectomy and salpingo-oophorectomy for the ovarian cancer in 2017. The patient was also treated with chemotherapy for the ovarian cancer following the surgery.

LF currently takes the following medications: hydrocodone/acetaminophen 10-325 mg P.O. every 6 hours as needed for pain, lisinopril 10 mg P.O. daily, gabapentin 900 mg P.O. at bedtime, aspirin 81 mg P.O. daily, simvastatin 40 mg P.O. daily at bedtime, and metoprolol tartrate 50 mg P.O. daily.

LF's vital signs are a temperature of 97.3° F (36.3° C), pulse rate of 88 beats/minute, respiratory rate of 19 breaths/minute, BP of 107/66 mm Hg, and a pulse

oximeter reading of 99% on room air. The patient's lips are cracked and dry, and her skin is pale in color with poor turgor. Her abdomen has hypoactive, high-pitched bowel sounds and is distended, firm, and tender to touch. The patient is awake, alert, and oriented times four and denies any further complaints.

After examination by the ED physician and a consult with the patient's nurse, a complete blood cell count, complete metabolic panel, and a computed tomography scan of the abdomen are ordered. A 20-gauge I.V. is started in the patient's right hand and 0.9% sodium chloride solution is ordered at 100 mL/h. The patient is prescribed ondansetron 4 mg I.V. every 6 hours as needed for N/V and morphine 2 mg I.V. every 2 hours as needed for pain.

Labs reveal an elevated white blood cell count of 16.3 k/uL (reference, 4.5-11 k/uL), a hemoglobin of 8.6 g/dL (reference range for females, 12-16 g/dL), a hematocrit of 31% (reference range for females, 36% to 46%), a blood urea nitrogen of 61 mg/dL (reference, 8-25 m/dL), creatinine of 4.3 mg/dL (reference, 0.6-1.2 mg/dL), and a potassium of 2.8 mmol/L (reference, 3.5-5.0 mmol/L). Computed tomography shows an obstruction of the right ureter



from a mass with severe right hydronephrosis and a large mass superior to the sigmoid colon. After consulting with the patient's family doctor and oncologist, it's determined that these findings are an exacerbation of the patient's condition that she has been experiencing for several weeks. Unfortunately, a prior workup by the patient's oncologist showed a reoccurrence of cancer. The tumors didn't respond to chemotherapy and are inoperable.

After discussing the situation with the patient, she's admitted to the medical surgical unit with the following orders:

- N.P.O.
- Morphine 2 mg I.V. every 2 hours as needed for pain
- 0.9% sodium chloride with 40 meq of potassium chloride at 125 mL/h
- 250 mL of NSS with 40 meq of potassium chloride over 4 hours
- Insert nasogastric tube to low intermittent suction
- Ondansetron 4 mg I.V. every 6 hours as needed for N/V
- Activity as tolerated
- 5,000 units of heparin subcut every 8 hours
- Repeat complete blood cell count and complete metabolic panel in the morning and a urinalysis with culture and sensitivity
- Consult oncology, urology, and palliative care team
- Levofloxacin 500 mg I.V. daily for 7 days

Background

Palliative care (PC) is a specialized approach to disease management that uses healthcare collaboration to focus on a patient and family's physical, emotional, and spiritual quality of life while managing symptoms and alleviating suffering associated with debilitating illness(es).^{1,2} PC can be integrated into the treatment of any disease process that causes a patient distress but is most often associated with chronic, progressive diseases such as cancer. It involves a team-based approach to care for patients and their families and often involves physicians, nurses, social workers, physical and occupational therapists, holistic medicine professionals, and/or chaplains or religious leaders. The integration of an interdisciplinary team in PC allows for patients to receive a holistic approach to care.²

After an individual has been diagnosed with cancer, PC can be integrated into their treatment plan at any point in the disease trajectory.¹ Patients receiving PC may concurrently receive treatment for their cancer throughout their disease process. *Common issues patients with a cancer diagnosis face* describes some of the physical, psychosocial, and spiritual issues that patients who are diagnosed with cancer may experience. Each patient's experience during their cancer trajectory is unique; therefore, PC teams can allow for patients to receive care specialized to individual needs.¹

Common issues patients with a cancer diagnosis face

Physical	Pain, weakness, dehydration, nausea, loss of appetite, fatigue, and shortness of breath. ^{1,3}
Psychosocial	Depression, anxiety, fear, and guilt are some symptoms PC can address. ¹
Spiritual	It's common for patients and their families who experience a cancer diagnosis to explore their spiritual beliefs to help achieve peace or accept their current diagnosis. ^{1,4}
Patient and family needs	Patients and families will need to navigate legal and financial concerns regarding current and future care. Additionally, the patient's family may experience stress related to caregiving responsibilities and emotional support of their loved one. ¹

Best practices

PC can be integrated into disease-directed treatment for patients with cancer to improve their symptoms and quality of life. In addition, PC can and should be implemented into the treatment for other acute and chronic conditions that require symptom management including acute traumas, Alzheimer disease, Parkinson disease, heart failure, and many others. Nurses are directly involved in providing PC for patients, specifically when a disease causes the patient distress. To provide quality care for patients, any misconceptions surrounding the purposes of PC should be addressed. PC is often offered to patients near the end of life; however, it's available for patients with all serious illnesses in many different settings.⁵ PC can help patients live longer with an improved quality of life by treating the disease and symptoms concurrently.⁶

Early discussion

For patients with cancer, early PC is beneficial to quality of life and patient outcomes.⁷ Physicians and nurses should discuss implementation and availability of these services with patients early in the disease process. Nurses can advocate for curative and palliative treatments, which then provide avenues for advocacy and physical and psychosocial support.⁷ By building trusting relationships, patients may be more receptive to hearing about palliative options. Although these situations may involve difficult diagnoses, nurses must be able to communicate with patients and family members regarding the plan of care.⁸

Symptom management

There are many different approaches available for individuals who can benefit from PC. PC services begin with an understanding of the goals of the patient, depending on their physical, emotional, and spiritual well-being.⁵ Nurses should take time to communicate with patients

to understand their needs, including what's important to their health and healing process. This assessment includes discovering any stressors or symptoms, as well as understanding the trajectory and treatment options that are available.⁶

Overall, the assessment and care focuses on relieving symptoms and optimizing the quality of life.⁵ PC for patients with cancer can target symptoms specific to the treatments and adverse reactions associated with the illness such as anorexia, fatigue, nausea, constipation, dyspnea, and pain.⁸ However, PC isn't limited to the treatment of physical symptoms. Psychosocial and spiritual needs are also addressed by helping patients with anxiety, depression, and fear, as well as finding peace.¹

Patients aren't the only ones engaged through PC. Family members should be involved because they may endure stress associated with the disease.¹ Nurses should be in communication with family members involved in the patient's life, and they're in a unique position to provide this support by actively listening to family members.⁷

Interventions

There are many interventions available for nurses to implement when providing PC for patients with a diagnosis of cancer. Nurses become very involved with providing these interventions for patients and their caregivers, especially considering the time nurses spend with patients.⁷ There are many pharmacologic and complementary treatments used in PC for patients with cancer depending on the symptoms that the patient reports. These types of interventions include medications, dietary adjustments, or collaboration with physical therapy for physical symptoms.⁹ (See *Sample medications recommended for PC symptom management*.)

Medical marijuana or cannabis is another option to relieve symptoms caused by cancer and its treatment, and can be an effective treatment to relieve nausea, pain,

Sample medications recommended for PC symptom management

Symptom(s) Treated	Medication Name and Action	Adverse Reactions	Priority Nursing Interventions
Decreased appetite/ anorexia	Olanzapine: antagonizes alpha1-adrenergic, dopamine, histamine, muscarinic, and serotonin receptors ¹⁰ Treatment of anorexia nervosa, may help increase nutrition intake ¹¹	Drowsiness, agitation, insomnia, headache, nervousness, hostility, dizziness, rhinitis ¹⁰	Monitor BP and assist with ambulation if dizziness occurs. Monitor for extrapyramidal symptoms (EPS). Assess for an increase in appetite. ¹⁰
	Mirtazapine: antagonist at presynaptic alpha2-adrenergic receptors, increases norepinephrine, epinephrine, and serotonin ¹⁰ Used to limit anorexia and increase intake due to increased appetite ¹¹	Drowsiness, dry mouth, constipation, weight gain ¹⁰	Assess appearance, behavior, and level of interest for any signs of depression. Do not discontinue abruptly. ¹⁰
Anxiety	Lorazepam: enhances action of gamma-Aminobutyric acid, used in the treatment to relieve anxiety ^{10,11}	Drowsiness, dizziness, irritability, insomnia, hand tremors, cramping, diaphoresis, vomiting, seizures ¹⁰	Provide emotional support to patients. Monitor BP, respiratory rate, and heart rate. Assess motor responses and for any abnormal reactions early in therapy. ¹⁰
Constipation	Senna: acts in colon to enhance intestinal motility by accumulating electrolytes and water ¹⁰ May be taken regularly or prophylactically ¹¹	Abdominal discomfort, cramps ¹⁰	Ensure adequate hydration and assess for bowel activity. ¹⁰
	Docusate: acts in small/large intestine to hydrate and soften stool ¹⁰ May be taken regularly or prophylactically ¹¹	Stomachache, nausea, cramping, diarrhea, irritated throat ¹⁰	Ensure adequate hydration and assess for bowel activity. ¹⁰
Depression	Fluoxetine: selectively inhibits serotonin uptake, first line of treatment for depression ^{10,11}	Headache, insomnia, asthenia, anxiety, nausea, diarrhea, decreased appetite, agitation, delirium, hallucination, hyperreflexia, hyperthermia, tachycardia ¹⁰	Assess appearance, behavior, and mood for increased depression in early treatment. Monitor daily pattern of bowel movements. Do not abruptly stop treatment. ¹⁰
Diarrhea	Loperamide: directly affects intestinal walls, providing relief of diarrhea ¹⁰	Dry mouth, drowsiness, abdominal discomfort, constipation, nausea, vomiting ¹⁰	Encourage adequate fluid intake. Assess bowel sounds and monitor bowel activity. ¹⁰
Dyspnea/ breathlessness and pain	Morphine: binds with opioid receptors ¹⁰ Improves dyspnea, reduces respiratory rate, and relieves pain ¹¹	Nausea, vomiting, sedation, decreased BP, diaphoresis, constipation, dizziness, respiratory depression, stupor, coma ¹⁰	Monitor vital signs and be alert for significant changes in respiration and BP. Titrate to desired effects. ^{10,11}
Fatigue	Dexamethasone: corticosteroid that suppresses the immune system ¹⁰ Utilized to relieve fatigue due to adverse reaction of insomnia ¹¹	Weight gain, increased appetite, increased blood glucose ¹⁰	Monitor blood glucose and taper off medication appropriately. ¹⁰
	Methylphenidate: blocks reuptake of norepinephrine and dopamine into presynaptic synapses, decreases fatigue ¹⁰	Anxiety, anorexia, tachycardia, palpitations, arrhythmias, chest pain ¹⁰	Monitor BP and pulse. ¹⁰
Nausea/ vomiting	Prochlorperazine: blocks dopamine receptors in the brain, relieving nausea/vomiting ¹⁰	Drowsiness, hypotension, fainting, EPS, tardive dyskinesia ¹⁰	Educate patients about discontinuing abruptly, as this can lead to excessive nausea and vomiting. Monitor for EPS, such as fine tongue movement. ¹⁰
	Scopolamine: inhibits acetylcholine in smooth muscle and secretory glands, relieves nausea and vomiting ^{10,11}	Dry mouth, blurred vision, drowsiness ¹⁰	Monitor for dehydration. ¹⁰

(continues)

Sample medications recommended for PC symptom management *(continued)*

Symptom(s) Treated	Medication Name and Action	Adverse Reactions	Priority Nursing Interventions
Pain (mild to moderate)	Acetaminophen: activates descending serotonergic inhibitory pathways ^{10,11}	Signs of toxicity: anorexia, nausea, diaphoresis, fatigue, vomiting, right upper quadrant pain ¹⁰	Assess for improvement of pain and don't exceed maximum daily recommended dose. ¹⁰
	Aspirin: decreases prostaglandin formation ¹⁰ Also reduces inflammation ¹¹	Signs of toxicity: tinnitus, pruritus, headache, dizziness, flushing, tachycardia, hyperventilation, diaphoresis ¹⁰	Monitor urinary pH for values between 6.5 and 5.5 as this may be evidence of toxicity. ¹⁰
	Ibuprofen: inhibits enzymes responsible for prostaglandin precursors ¹⁰ Also reduces inflammation ¹¹	Peptic ulcers, gastrointestinal (GI) bleeding, gastritis, cholestasis, jaundice, dysuria, hematuria, nephrotic syndrome, proteinuria ¹⁰	Monitor for bleeding, bruising, or occult blood loss, as well as additional signs of toxicity. ¹⁰
	Naproxen: inhibits enzymes responsible for prostaglandin precursors ¹⁰ Can also relieve inflammatory response and pain intensity ¹¹	Long-term use may result in peptic ulcers, GI bleeding, gastritis, cholestasis, jaundice, dysuria, hematuria, proteinuria, nephrotic syndrome, fever, chills, bronchospasm ¹⁰	Assist with ambulation if dizziness occurs. Monitor renal functions tests and bowel activity. ¹⁰
Pain (moderate to severe)	Fentanyl: binds to opioid receptors, reduces stimuli from sensory nerve endings ¹⁰ Used for breakthrough, severe pain ¹¹	Severe respiratory depression, muscle rigidity, drowsiness, vomiting ¹⁰	Assist with ambulation. Encourage patient to turn, cough, and deep breathe. Monitor respiratory rate, BP, and pulse. Record onset of pain relief. ¹⁰
	Hydromorphone: binds to opioid receptors, reduces intensity of pain stimuli from sensory nerve endings ^{10,11}	Respiratory depression, muscle flaccidity, clammy skin, cyanosis, drowsiness ¹⁰	Monitor vital signs. Assess bowel activity. Encourage deep breathing and coughing. Record onset of pain relief. ¹⁰
	Hydrocodone: binds with opioid receptors ^{10,11}	Respiratory depression, muscle flaccidity, clammy skin, cyanosis, drowsiness, hypotension, urinary retention ¹⁰	Assess for urinary retention and bowel activity. Encourage cough and deep breathing. Record onset of pain relief. ¹⁰
	Oxycodone: binds with opioid receptors, inhibits pain pathways ¹⁰ Used for relief of acute or chronic, moderate to severe pain ¹¹	Respiratory depression, muscle flaccidity, clammy skin, cyanosis, drowsiness, nausea, vomiting, urinary retention ¹⁰	
	Methadone: binds with opioid receptors, inhibits pain pathways ^{10,11}	Respiratory depression, muscle flaccidity, clammy skin, cyanosis, drowsiness, increased sedation, QT prolongation ¹⁰	Monitor vital signs. Assess for bowel activity. Record onset of pain relief. ¹⁰
Pain (neuropathic)	Tapentadol: binds with opioid receptors, inhibits pain pathways, increases norepinephrine by inhibiting reabsorption into nerve cells ^{10,11}	Respiratory depression, serotonin syndrome, nausea, dizziness, headache ¹⁰	Assess for decreased respiration and BP. Record onset of pain relief. ¹⁰
	Tramadol: binds with opioid receptors, inhibits pain pathways, inhibits reuptake of norepinephrine, serotonin ^{10,11}	Seizures, vertigo, constipation, serotonin syndrome ¹⁰	Monitor pulse and BP. Assist with ambulation. Monitor for bowel movements and urine output. Record onset of pain relief. ¹⁰
Respiratory tract secretions	Glycopyrrolate: inhibits cholinergic receptors on bronchial smooth muscle ¹⁰ Utilized to dry out excessive mucus production ¹²	Fatigue, diarrhea, nausea, arthralgia, nasopharyngitis, upper respiratory tract infection, wheezing ¹⁰	Assess for urinary retention. Monitor for thick mucus or mucus plugging. ¹²

anxiety, and poor appetite.¹³ A sense of dissociation from these uncomfortable symptoms may be achieved and assist with creating feelings of overall well-being. Medical marijuana may be used as opposed to a combination of medications that could lead to their own array of adverse reactions.¹³

Nurses can provide stress reduction strategies such as exercise, art and music therapy, meditation, or even counseling and assist with appropriate referrals when needed.⁹ Many of these interventions can be recommended for family members as well. These holistic practices may assist patients or family members of patients with a cancer diagnosis in navigating through the disease process.

Barriers to PC

Care of oncology patients in and of itself can often be complex and because of this, a multidisciplinary team approach should be used, including the PC subspecialty. However, many barriers exist when it comes to the use of such PC within these patients' treatment plans. These can include but are certainly not limited to a lack of provider implementation and integration within the healthcare system, inadequate funding, culture differences, and poor education and training for both the patient and healthcare team.

Lack of provider implementation and funding

Despite increasing evidence supporting the early integration of PC into the treatment plan of oncology patients, levels of such implementation remain poor, particularly in the acute care setting.¹⁴ Reasons for this vary from simple lack of education in patients, caregivers, and healthcare providers alike to a lack of available financial resources.

The primary challenge in the implementation of PC in this particular patient population is clinical acceptance and how to properly adapt current care practices in these units to fit PC activities. This

includes management of pain and other symptoms, providing psychosocial support, and eventual facilitation of appropriate transfer to hospice or discharge to home PC.¹⁵ By using an interdisciplinary team, including the oncologist, PC physician, clinical nurse, and other caregivers as necessary, a comprehensive treatment plan that is personalized to the individual patient can overcome this challenge.^{15,16}

A lack of financial resources such as budgetary limitations to implement a PC program can also limit its use in oncology patients, especially in smaller rural hospitals that may be pressed for funding.^{14,15} Various government funding programs, including the Affordable Care Act of 2010 and new Medicare rules implemented in 2016, have allowed for such services to now be covered by Medicare, Medicaid, and private insurance companies, which can ease this burden, along with grants available from various organizations that advocate for the PC subspecialty.^{15,17,18}

Poor integration into the healthcare system

There is often a lack of education for the patient, caregiver, and healthcare provider when it comes to the services that PC can offer. This in turn can lead to inadequate or otherwise poor care when it comes to oncology patients who require PC, limiting its overall integration into the healthcare system. Because of this, many patients are not referred or otherwise do not seek palliative interventions until the last month of their life, with more doing so in their final 3 days.¹⁷ Such late integration can have a trickle-down effect and lead to an increase in the burden of symptoms and ultimately poor patient outcomes and lowered family satisfaction, both short and long term, as many of these treatments are invasive and at odds with the desires of the patients and their families.

Further, there is an unwarranted increase in cost for both the patient and

healthcare institution.¹⁷ Adequate and earlier integration of PC can lead to a higher quality of life for a much longer period, allowing the patient to live out their desired lifestyle, while preventing potentially unnecessary or unexpected hospitalization.¹⁷ In addition to methods to improve patient and caregiver awareness of PC, the use of a multidisciplinary team within the healthcare system to tailor treatment to the patient's desired interventions can be helpful in achieving early PC integration.¹⁵⁻¹⁷

Racial and cultural differences

Although PC programs in the US continue to increase, Hispanic Americans, Black Americans, and Asian Americans have reported lower rates of utilization compared with non-Hispanic White Americans.¹⁹ Providers often report that patients' and families' cultural beliefs about death, dying, and life-sustaining treatments are reasons they don't implement PC.²⁰ For example, in a study specifically focusing on Asian Americans' perspectives on PC, Asian Americans were reluctant to report pain and therefore reluctant to receive treatment for their pain because of cultural values.²¹ These considerations are essential because the implementation of PC focuses on pain and symptom management.

Communicating with individuals who speak different languages can also introduce barriers when discussing prognosis and treatment options. Research has shown that patients' and families' reluctance to discuss treatment options and outcomes, along with low levels of language proficiency, are barriers to PC use.²¹ Furthermore, depending on the geographic location of patients, they may not have heard about PC as an option in their disease process. Social, geographic, racial, and cultural aspects are all reasons as to why people of various cultures haven't experienced or considered PC as an option.²⁰ Because PC is a relatively new

field of medicine, more research is needed regarding its impact and intercultural considerations.

Lack of education and training

Patients and family members often associate PC interchangeably with end-of-life care, hindering its implementation and use. Parajuli and Hupcey showed that in patients who had a cancer diagnosis, patients and their families had negative stereotypes and lack of knowledge regarding PC and felt stigmatized because of the association of PC with end-of-life care.²⁰ If both the patient and healthcare provider have limited information on PC services, this can lead to hesitation to make referrals or choose PC as an option for symptom management.

There's also a lack of education and training on PC among healthcare providers, and that contributes to the underutilization of these services. Many providers lack information about all the different components of PC and the difference between it and hospice, lack training on the delivery of PC services, and lack time and experience spent in this area.²⁰ During the referral process, primary care providers may misunderstand the services included in PC and how it's different than hospice.²² If this is the case throughout majority of healthcare systems, this can be a major barrier to delivering PC to patients who could use it the most.

Case study conclusion

After consultation with the PC team, the urologist, and surgical oncologist, it's determined that the best treatment is a palliative debulking surgery to reduce the size of the mass in the colon and near the kidney to allow LF a better quality of life. Also, an external nephrostomy tube is placed into the right kidney to help resolve the hydronephrosis. Two weeks following surgery, the patient is at home with a well-healing abdominal wound, eating a regular diet, and can void and



on the web

Mayo Clinic: Overview of the diseases and symptoms that can be enhanced by PC

www.mayoclinic.org/tests-procedures/palliative-care/about/pac-20384637

World Health Organization: PC information and barriers to PC

www.who.int/news-room/fact-sheets/detail/palliative-care

National Institutes of Health: Breakdown of what PC provides, including how to access PC

www.ninr.nih.gov/newsandinformation/what-is-palliative-care

Medline Plus: Goals of PC and the difference between PC and hospice

<https://medlineplus.gov/ency/patientinstructions/000536.htm>

move her bowels without difficulty. The patient remains in pain, rating it a 5/10 to her abdominal area and still has intermittent N/V. A PC home health nurse following the patient and facilitating care to ensure the patient is comfortable with a good quality of life.

The patient has resumed all of her previous home medications and is meeting regularly with spiritual care, physical therapy, and social services with her family. In addition, the PC team has added medical marijuana 2.5 mg P.O. every 12 hours to help with N/V and to stimulate appetite, lorazepam 0.5 mg P.O. every 4 hours as needed for anxiety, and a transdermal fentanyl patch 12.5 mg to be changed every 3 days to allow for more consistent pain control, while keeping the previously prescribed hydrocodone/acetaminophen for breakthrough pain as needed and docusate sodium 100 mg P.O. BID to prevent constipation. The plan of care is to continue to monitor the patient and ensure that she's living her best possible life and transition to hospice care when appropriate.

Conclusion

A cancer diagnosis can affect many factors of a person's life including their physical health, psychosocial well-being, spirituality, and family members.^{1,3} The implementation of PC into the treatment

of a person with cancer offers holistic and comprehensive treatment that can address the patient's needs by improving quality of life while also alleviating symptoms. However, barriers for the introduction of PC, such as lack of education, negative stereotypes, and association with end-of-life care, can interfere with implementation. Nurses should communicate with persons living with cancer and their healthcare providers to address common misconceptions regarding PC and discuss if PC is appropriate for them. It's important for nurses to advocate for their patients, ensuring that their needs are met and appropriate interventions are provided. By using the best practices discussed, nurses can overcome barriers to care and provide high-quality person-centered care. ■

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