

CANCER

Cancer is a general term used to describe a disturbance of cellular growth and refers to a group of diseases and not a single disease entity. There are currently more than 150 different known types of cancer. Because cancer is a cellular disease, it can arise from any body tissue, with manifestations that result from failure to control the proliferation and maturation of cells.

There are four main classifications of cancer according to tissue type: (1) lymphomas (cancers originating in infection-fighting organs), (2) leukemias (cancers originating in blood-forming organs), (3) sarcomas (cancers originating in bones, muscle, or connective tissue), and (4) carcinomas (cancers originating in epithelial cells). Within these broad categories, a cancer is classified by histology, stage, and grade.

Through years of observation and documentation, it has been noted that the metastatic behavior of cancers varies according to the primary site of diagnosis. This behavior pattern is known as the “natural history.” An example is the metastatic pattern for primary breast cancer. Breast cancer most commonly spreads to the bone-lung-liver-brain. Knowledge of the etiology and natural history of a cancer type is important in planning the patient’s care and in evaluating the patient’s progress, prognosis, and physical complaints.

CARE SETTING

Cancer centers may focus on staging and major treatment modalities for complex cancers. Treatment for managing adverse effects such as malnutrition and infection may take place in short-stay, ambulatory, or community settings. More cancer patients are receiving care at home because of personal choice and healthcare costs.

RELATED CONCERNS

End of life/hospice care

Fecal diversions: postoperative care of ileostomy and colostomy

Hysterectomy

Leukemias

Lung cancer: postoperative care

Lymphomas

Mastectomy

Prostatectomy

Psychosocial aspects of care

Radical neck surgery: laryngectomy (postoperative care)

Sepsis/septicemia

Total nutritional support: parenteral/enteral feeding

Urinary diversions/urostomy (postoperative care)

Patient Assessment Database

Depends on organs/tissues involved and stage of disease.

Refer to appropriate plans of care for additional assessment information.

ACTIVITY/REST

May report:

Weakness and/or fatigue

Changes in rest pattern and usual hours of sleep per night; presence of factors affecting sleep, e.g., pain, anxiety, night sweats

Limitations of participation in hobbies, exercise, usual activities

CIRCULATION

May report:

Palpitations, chest pain on exertion

May exhibit:

Changes in BP, fluctuations in heart rate

EGO INTEGRITY

May report:

Stress factors (financial, job, role changes) and ways of handling stress (e.g., smoking, drinking, delay in seeking treatment, religious/spiritual belief)

Concern about changes in appearance, e.g., alopecia, disfiguring lesions, surgery, profound weight loss, edema and/or weight gain
Denial of diagnosis, feelings of powerlessness, hopelessness, helplessness, worthlessness, guilt, loss of control, depression

May exhibit: Denial, withdrawal, anger

ELIMINATION

May report: Changes in bowel pattern, e.g., blood in stools, pain with defecation, constipation
Changes in urinary elimination, e.g., pain or burning on urination, hematuria, frequent urination

May exhibit: Changes in bowel sounds, abdominal distension, diarrhea, dysuria, frequency, incontinence

FOOD/FLUID

May report: Poor dietary habits (e.g., low-fiber, high-fat, additives, preservatives)
Anorexia, nausea/vomiting; difficulty swallowing, mouth sores
Food intolerances

May exhibit: Changes in weight; severe weight loss, cachexia, wasting of muscle mass
Changes in skin moisture/turgor; edema

NEUROSENSORY

May report: Dizziness; syncope, lack of coordination, unstable balance
Numbness/tingling of extremities; sensation of coldness, difficulty performing fine motor skills (e.g., buttoning shirt)

PAIN/DISCOMFORT

May report: No pain, or varying degrees, e.g., mild discomfort to severe pain (associated with disease process)

RESPIRATION

May report: Smoking (tobacco, marijuana), living with someone who smokes
Asbestos or dust exposure (e.g., coal, sandstone)
History of chronic respiratory disease
Dyspnea with exertion

SAFETY

May report: Exposure to toxic chemicals, carcinogens (occupation/profession or environment)
Excessive/prolonged sun exposure

May exhibit: Skin rashes, ulcerations; dry, leatherlike skin

SEXUALITY

May report: Sexual concerns, e.g., impact on relationship, change in level of satisfaction, impotence
Nulligravida older than 30 years of age; multigravida; multiple sex partners, early sexual activity, genital herpes; exposure to HPV (human papillomavirus)

SOCIAL INTERACTION

May report: Inadequate/weak support system
Marital history (regarding in-home satisfaction, support, or help)
Concerns about role function/responsibility

TEACHING/LEARNING

May report: Family history of cancer, e.g., multiple family members/mother, grandmother, aunt, or sister with breast cancer
Primary site, date discovered/diagnosed
Metastatic disease: Additional sites involved (if none, natural history of primary will provide important information for looking for metastasis)
Treatment history: Previous treatment for cancer—place and treatments given

Discharge plan **DRG projected mean length of stay: Depends on specific system affected and therapeutic needs**

considerations: May require assistance with finances, medications/treatments, wound care/supplies, transportation, food shopping and preparation, self-care, homemaker/maintenance tasks, provision for child care; changes in living facilities/hospice

Refer to section at end of plan for postdischarge considerations.

DIAGNOSTIC STUDIES

Test selection depends on history, clinical manifestations, and index of suspicion for a particular cancer.

Endoscopy: Used for direct visualization of body organs/cavities to detect abnormalities.

Scans (e.g., magnetic resonance imaging [MRI], CT, gallium) and ultrasound: May be done for diagnostic purposes, identification of metastasis, and evaluation of response to treatment.

Biopsy (fine-needle aspiration [FNA], needle core, incisional/excisional): Done to differentiate diagnosis and delineate treatment and may be taken from bone marrow, skin, organ, and so forth. Example: Bone marrow biopsy is done in myeloproliferative diseases for diagnosis, in solid tumors for staging.

Tumor markers (substances produced and secreted by tumor cells and found in serum, e.g., carcinoembryonic antigen [CEA], prostate-specific antigen [PSA], alpha-fetoprotein, human chorionic gonadotropin [HCG], prostatic acid phosphatase, calcitonin, pancreatic oncofetal antigen, CA 15–3, CA 19–9, CA 125, and so on): Helpful in diagnosing cancer but more useful as prognostic indicator and/or therapeutic monitor. For example, the serum CEA level is frequently elevated when colon cancer begins to enlarge or invade tissue.

Screening chemistry tests, e.g., electrolytes (sodium, potassium, calcium), renal tests (BUN/Cr), liver tests (bilirubin, AST, alkaline phosphatase, LDH), bone tests (calcium): Depend on individual condition, risk factors.

CBC with differential and platelets: May reveal anemia, decreased Hb/Hct, changes in RBCs and WBCs; reduced or increased platelets.

Chest x-ray: Screens for primary or metastatic disease of lungs.

NURSING PRIORITIES

1. Support adaptation and independence.
2. Promote comfort.
3. Maintain optimal physiological functioning.
4. Prevent complications.
5. Provide information about disease process/condition, prognosis, and treatment needs.

DISCHARGE GOALS

1. Patient is dealing with current situation realistically.
2. Pain alleviated/controlled.
3. Homeostasis achieved.
4. Complications prevented/minimized.
5. Disease process/condition, prognosis, and therapeutic choices and regimen understood.
6. Plan in place to meet needs after discharge.

NURSING DIAGNOSIS: Fear/Anxiety [specify level]

May be related to

- Situational crisis (cancer)
- Threat to/change in health/socioeconomic status, role functioning, interaction patterns
- Threat of death
- Separation from family (hospitalization, treatments), interpersonal transmission/contagion of feelings

Possibly evidenced by

- Increased tension, shakiness, apprehension, restlessness, insomnia
- Expressed concerns regarding changes in life events
- Feelings of helplessness, hopelessness, inadequacy
- Sympathetic stimulation, somatic complaints

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Fear [or] Anxiety Control (NOC)

- Display appropriate range of feelings and lessened fear.
- Appear relaxed and report anxiety is reduced to a manageable level.
- Demonstrate use of effective coping mechanisms and active participation in treatment regimen.

ACTIONS/INTERVENTIONS	RATIONALE
<p>Anxiety Reduction (NIC)</p> <p>Independent</p> <p>Review patient's/SO's previous experience with cancer. Determine what the doctor has told patient and what conclusion patient has reached.</p> <p>Encourage patient to share thoughts and feelings.</p> <p>Provide open environment in which patient feels safe to discuss feelings or to refrain from talking.</p> <p>Maintain frequent contact with patient. Talk with and touch patient as appropriate.</p> <p>Be aware of effects of isolation on patient when required by immunosuppression or radiation implant. Limit use of isolation clothing/masks as possible.</p> <p>Assist patient/SO in recognizing and clarifying fears to begin developing coping strategies for dealing with these fears.</p>	<p>Clarifies patient's perceptions; assists in identification of fear(s) and misconceptions based on diagnosis and experience with cancer.</p> <p>Provides opportunity to examine realistic fears and misconceptions about diagnosis.</p> <p>Helps patient feel accepted in present condition without feeling judged, and promotes sense of dignity and control.</p> <p>Provides assurance that patient is not alone or rejected; conveys respect for and acceptance of the person, fostering trust.</p> <p>Sensory deprivation may result when sufficient stimulation is not available and may intensify feelings of anxiety/fear and alienation.</p> <p>Coping skills are often stressed after diagnosis and during different phases of treatment. Support and counseling are often necessary to enable individual to recognize and deal with fear and to realize that control/coping strategies are available.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Anxiety Reduction (NIC)</p> <p>Independent</p> <p>Provide accurate, consistent information regarding diagnosis and prognosis. Avoid arguing about patient's perceptions of situation.</p> <p>Permit expressions of anger, fear, despair without confrontation. Give information that feelings are normal and are to be appropriately expressed.</p> <p>Explain the recommended treatment, its purpose, and potential side effects. Help patient prepare for treatments.</p> <p>Explain procedures, providing opportunity for questions and honest answers. Stay with patient during anxiety-producing procedures and consultations.</p> <p>Provide primary and consistent caregivers whenever possible.</p> <p>Promote calm, quiet environment.</p> <p>Identify stage/degree of grief patient and SO are currently experiencing. (Refer to ND: Grieving, anticipatory, following.)</p> <p>Note ineffective coping, e.g., poor social interactions, helplessness, giving up everyday functions and usual sources of gratification.</p> <p>Be alert to signs of denial/depression, e.g., withdrawal, anger, inappropriate remarks. Determine presence of suicidal ideation and assess potential on a scale of 1–10.</p> <p>Encourage and foster patient interaction with support systems.</p>	<p>Can reduce anxiety and enable patient to make decisions/choices based on realities.</p> <p>Acceptance of feelings allows patient to begin to deal with situation.</p> <p>The goal of cancer treatment is to destroy malignant cells while minimizing damage to normal ones. Treatment may include surgery (curative, preventive, palliative), as well as chemotherapy, radiation (internal, external), or newer/organ-specific treatments such as whole-body hyperthermia or biotherapy. Bone marrow or peripheral progenitor cell (stem cell) transplant may be recommended for some types of cancer.</p> <p>Accurate information allows patient to deal more effectively with reality of situation, thereby reducing anxiety and fear of the unknown.</p> <p>May help reduce anxiety by fostering therapeutic relationship and facilitating continuity of care.</p> <p>Facilitates rest, conserves energy, and may enhance coping abilities.</p> <p>Choice of interventions is dictated by stage of grief, coping behaviors, e.g., anger/withdrawal, denial.</p> <p>Identifies individual problems and provides support for patient/SO in using effective coping skills.</p> <p>Patient may use defense mechanism of denial and express hope that diagnosis is inaccurate. Feelings of guilt, spiritual distress, physical symptoms, or lack of cure may cause patient to become withdrawn and believe that suicide is a viable alternative.</p> <p>Reduces feelings of isolation. If family support systems are not available, outside sources may be needed immediately, e.g., local cancer support groups.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Anxiety Reduction (NIC)</p> <p>Independent</p> <p>Provide reliable and consistent information and support for SO.</p> <p>Include SO as indicated/patient desires when major decisions are to be made.</p> <p>Collaborative</p> <p>Administer antianxiety medications, e.g., lorazepam (Ativan), alprazolam (Xanax), as indicated.</p> <p>Refer to additional resources for counseling/support as needed.</p>	<p>Allows for better interpersonal interaction and reduction of anxiety and fear.</p> <p>Provides a support system for patient and allows SO to be involved appropriately.</p> <p>May be useful for brief periods of time to help patient handle feelings of anxiety related to diagnosis/situation and/or during periods of high stress.</p> <p>May be useful from time to time to assist patient/SO in dealing with anxiety.</p>

<p>NURSING DIAGNOSIS: Grieving, anticipatory</p> <p>May be related to</p> <p>Anticipated loss of physiological well-being (e.g., loss of body part; change in body function); change in lifestyle</p> <p>Perceived potential death of patient</p> <p>Possibly evidenced by</p> <p>Changes in eating habits, alterations in sleep patterns, activity levels, libido, and communication patterns</p> <p>Denial of potential loss, choked feelings, anger</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Grief Resolution (NOC)</p> <p>Identify and express feelings appropriately.</p> <p>Continue normal life activities, looking toward/planning for the future, one day at a time.</p> <p>Verbalize reality/acceptance of situation.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p>Grief Work Facilitation (NIC)</p> <p>Independent</p> <p>Expect initial shock and disbelief following diagnosis of cancer and/or traumatizing procedures (e.g., disfiguring surgery, colostomy, amputation).</p>	<p>Few patients are fully prepared for the reality of the changes that can occur.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Grief Work Facilitation (NIC)</p> <p>Independent</p> <p>Assess patient/SO for stage of grief currently being experienced. Explain process as appropriate.</p> <p>Encourage verbalization of thoughts and concerns. Accept expressions of sadness, anger, rejection. Acknowledge normality of these feelings.</p> <p>Be aware of mood swings, evidence of conflict, expressions of anger/hostility, and other acting-out behavior. Set limits on inappropriate behavior, redirect negative thinking.</p> <p>Note signs of debilitating depression. Ask patient direct questions about state of mind. Listen for statements of despair, guilt, hopelessness, e.g., “nothing to live for.”</p> <p>Reinforce teaching regarding disease process and treatments. Be honest, do not give false hope while providing emotional support.</p> <p>Review past life experiences, role changes, and coping skills.</p> <p>Hope Instillation (NIC)</p> <p>Identify positive aspects of the situation.</p> <p>Discuss ways patient/SO can plan together for the future. Encourage setting of realistic goals.</p> <p>Assist patient/SO to identify strengths in self/situation and support systems.</p> <p>Encourage participation in care and treatment decisions.</p> <p>Collaborative</p> <p>Refer to appropriate counselor as needed (e.g., psychiatric clinical nurse specialist, social worker, psychologist, clergyman).</p>	<p>Knowledge about the grieving process reinforces the normality of feelings/reactions being experienced and can help patient deal more effectively with them.</p> <p>Patient may feel supported in expression of feelings by the understanding that deep and often conflicting emotions are normal and experienced by others in this difficult situation.</p> <p>May be patient’s way of expressing/dealing with feelings of despair/spiritual distress reflecting ineffective coping and need for additional interventions. Preventing destructive actions enables patient to maintain control and sense of self-esteem.</p> <p>Studies show that many cancer patients are at high risk for suicide. They are especially vulnerable when recently diagnosed and/or discharged from hospital.</p> <p>Patient/SO benefit from factual information. Honest answers promote trust and provide reassurance that correct information will be given.</p> <p>Opportunity to identify skills that may help individuals cope with grief of current situation more effectively.</p> <p>Possibility of remission and slow progression of disease and/or new therapies can offer hope for the future.</p> <p>Having a part in problem solving/planning can provide a sense of control over anticipated events.</p> <p>Recognizing these resources provides opportunity to work through feelings of grief.</p> <p>Allows patient to retain some control over life.</p> <p>Can help alleviate distress or palliate feelings of grief to facilitate coping and foster growth.</p>

Refer to CP: End of Life/Hospice Care, ND: Grieving, anticipatory/Anxiety, death for additional interventions.

NURSING DIAGNOSIS: Self-Esteem, situational low

May be related to

Biophysical: disfiguring surgery, chemotherapy or radiotherapy side effects, e.g., loss of hair, nausea/vomiting, weight loss, anorexia, impotence, sterility, overwhelming fatigue, uncontrolled pain

Psychosocial: threat of death; feelings of lack of control and doubt regarding acceptance by others; fear and anxiety

Possibly evidenced by

Verbalization of change in lifestyle; fear of rejection/reaction of others; negative feelings about body; feelings of helplessness, hopelessness, powerlessness

Preoccupation with change or loss

Not taking responsibility for self-care, lack of follow-through

Change in self-perception/other's perception of role

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Self-Esteem (NOC)

Verbalize understanding of body changes, acceptance of self in situation.

Begin to develop coping mechanisms to deal effectively with problems.

Demonstrate adaptation to changes/events that have occurred as evidenced by setting of realistic goals and active participation in work/play/personal relationships as appropriate.

ACTIONS/INTERVENTIONS	RATIONALE
<p>Chemotherapy [or] Radiation Therapy Management (NIC)</p> <p>Independent</p> <p>Discuss with patient/SO how the diagnosis and treatment are affecting patient's personal life/home and work activities.</p> <p>Review anticipated side effects associated with a particular treatment, including possible effects on sexual activity and sense of attractiveness/desirability, e.g., alopecia, disfiguring surgery. Tell patient that not all side effects occur, and others may be minimized/controlled.</p> <p>Encourage discussion of/problem-solve concerns about effects of cancer/ treatments on role as homemaker, wage earner, parent, and so forth.</p> <p>Acknowledge difficulties patient may be experiencing. Give information that counseling is often necessary and important in the adaptation process.</p> <p>Evaluate support structures available to and used by patient/SO.</p> <p>Provide emotional support for patient/SO during diagnostic tests and treatment phase.</p>	<p>Aids in defining concerns to begin problem-solving process.</p> <p>Anticipatory guidance can help patient/SO begin the process of adaptation to new state and prepare for some side effects, e.g., buy a wig before radiation, schedule time off from work as indicated. (Refer to ND: Sexuality Patterns, risk for ineffective.)</p> <p>May help reduce problems that interfere with acceptance of treatment or stimulate progression of disease.</p> <p>Validates reality of patient's feelings and gives permission to take whatever measures are necessary to cope with what is happening.</p> <p>Helps with planning for care while hospitalized and after discharge.</p> <p>Although some patients adapt/adjust to cancer effects or side effects of therapy, many need additional support during this period.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Chemotherapy [or] Radiation Therapy Management (NIC)</p> <p>Independent</p> <p>Use touch during interactions, if acceptable to patient, and maintain eye contact.</p> <p>Collaborative</p> <p>Refer patient/SO to supportive group programs (e.g., I Can Cope, Reach to Recovery, Encore).</p> <p>Refer for professional counseling as indicated.</p>	<p>Affirmation of individuality and acceptance is important in reducing patient's feelings of insecurity and self-doubt.</p> <p>Group support is usually very beneficial for both patient/SO, providing contact with other patients with cancer at various levels of treatment and/or recovery, validating feelings and assisting with problem solving.</p> <p>May be necessary to regain and maintain a positive psychosocial structure if patient/SO support systems are deteriorating.</p>

<p>NURSING DIAGNOSIS: Pain, acute/chronic</p> <p>May be related to</p> <p>Disease process (compression/destruction of nerve tissue/body organs, infiltration of nerves or their vascular supply, obstruction of a nerve pathway, inflammation)</p> <p>Side effects of various cancer therapy agents</p> <p>Possibly evidenced by</p> <p>Reports of pain</p> <p>Self-focusing/narrowed focus</p> <p>Alteration in muscle tone; facial mask of pain</p> <p>Distraction/guarding behaviors</p> <p>Autonomic responses, restlessness (acute pain)</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Pain Level (NOC)</p> <p>Report maximal pain relief/control with minimal interference with ADLs.</p> <p>Pain Control (NOC)</p> <p>Follow prescribed pharmacological regimen.</p> <p>Demonstrate use of relaxation skills and diversional activities as indicated for individual situation.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p>Pain Management (NIC)</p> <p>Independent</p> <p>Determine pain history, e.g., location of pain, frequency, duration, and intensity using numeric rating scale (0–10 scale) or verbal rating scale (“no pain” to “excruciating pain”), and relief measures used. Believe patient’s report.</p> <p>Determine timing/precipitants of “breakthrough” pain when using around-the-clock agents, whether oral, IV, or patch medications.</p> <p>Evaluate/be aware of painful effects of particular therapies, i.e., surgery, radiation, chemotherapy, biotherapy. Provide information to patient/SO about what to expect.</p> <p>Provide nonpharmacological comfort measures (e.g., massage, repositioning, back rub) and diversional activities (e.g., music, television).</p> <p>Encourage use of stress management skills/complementary therapies (e.g., relaxation techniques, visualization, guided imagery, biofeedback, laughter, music, aromatherapy, and Therapeutic Touch).</p> <p>Provide cutaneous stimulation, e.g., heat/cold, massage.</p> <p>Be aware of barriers to cancer pain management related to patient, as well as the healthcare system.</p> <p>Evaluate pain relief/control at regular intervals. Adjust medication regimen as necessary.</p>	<p>Information provides baseline data to evaluate need for/effectiveness of interventions. Pain of more than 6 mo duration constitutes chronic pain, which may affect therapeutic choices. Recurrent episodes of acute pain can occur within chronic pain, requiring increased level of intervention. <i>Note:</i> The pain experience is an individualized one composed of both physical and emotional responses.</p> <p>Pain may occur near the end of the dose interval, indicating need for higher dose or shorter dose interval. Pain may be precipitated by identifiable triggers, or occur spontaneously, requiring use of short half-life agents for rescue or supplemental doses.</p> <p>A wide range of discomforts are common (e.g., incisional pain, burning skin, low back pain, headaches), depending on the procedure/agent being used. Pain is also associated with invasive procedures to diagnose/treat cancer.</p> <p>Promotes relaxation and helps refocus attention.</p> <p>Enables patient to participate actively in nondrug treatment of pain and enhances sense of control. Pain produces stress and, in conjunction with muscle tension and internal stressors, increases patient’s focus on self, which in turn increases the level of pain.</p> <p>May decrease inflammation, muscle spasms, reducing associated pain. <i>Note:</i> Heat may increase bleeding/edema following acute injury, whereas cold may further reduce perfusion to ischemic tissues.</p> <p>Patients may be reluctant to report pain for reasons such as fear that disease is worse; worry about unmanageable side effects of pain medications; beliefs that pain has meaning, such as “God wills it,” they should overcome it, or that pain is merited or deserved for some reason. Healthcare system problems include factors such as inadequate assessment of pain, concern about controlled substances/patient addiction inadequate reimbursement/cost of treatment modalities.</p> <p>Goal is maximum pain control with minimum interference with ADLs. <i>Note:</i> Opioid tolerance requires ongoing readjustment of dosage and use of combination therapy.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Pain Management (NIC)</p> <p>Independent</p> <p>Inform patient/SO of the expected therapeutic effects and discuss management of side effects.</p> <p>Collaborative</p> <p>Discuss use of/refer for additional alternative/complementary therapies, e.g., acupuncture/acupressure.</p> <p>Develop individualized pain management plan with patient and physician. Provide written copy of plan to patient, family/SO, and care providers.</p> <p>Administer medications as indicated, e.g.:</p> <p>Opioids, e.g., codeine, morphine (MS Contin), oxycodone (OxyContin), hydrocodone (Vicodin), hydromorphone (Dilaudid), methadone (Dolophine), fentanyl (Duragesic), oxymorphone (Numorphan);</p> <p>Acetaminophen (Tylenol); and nonsteroidal anti-inflammatory drugs (NSAIDs), including aspirin, ibuprofen (Motrin, Advil), peroxicam (Feldene), indomethacin (Indocin);</p> <p>Corticosteroids, e.g., dexamethasone (Decadron);</p> <p>Anticonvulsants, e.g., phenytoin (Dilantin), valproic acid (Depakote), clonazepam (Klonopin), gabapentin (Neurontin);</p> <p>Tricyclic antidepressants, e.g., amitriptyline (Elavil), imipramine (Tofranil), doxepin (Sinequan), trazodone (Desyrel);</p> <p>Antihistamines, e.g., hydroxyzine (Atarax, Vistaril);</p>	<p>This information helps establish realistic expectations, confidence in own ability to handle what happens.</p> <p>May provide reduction/relief of pain without drug-related side effects.</p> <p>An organized plan beginning with the simplest dosage schedules and least invasive modalities improves chance for pain control. Particularly with chronic pain, patient/SO must be active participant in pain management and all care providers need to be consistent.</p> <p>A wide range of analgesics and associated agents may be used around the clock to manage pain. <i>Note:</i> Addiction to or dependency on drug is not a concern.</p> <p>Effective for localized and generalized moderate to severe pain, with long-acting/controlled-release forms available. Routes of administration include oral, transmucosal, transdermal, nasal, rectal, epidural, intrathecal, and infusions (subcutaneous, IV), which may be delivered via PCA. IM use is not recommended because absorption is not reliable, in addition to being painful and inconvenient. <i>Note:</i> Fentanyl citrate (Oralet) is a transmucosal agent that is stroked on the inner cheek and absorbed through the mucosa. It was developed to control breakthrough pain in patients using sustained release preparations of fentanyl (patch).</p> <p>Adjuvant drugs are useful for mild to moderate pain and can be combined with opioids and other modalities.</p> <p>May be effective in controlling pain associated with inflammatory process (e.g., metastatic bone pain, acute spinal cord compression and neuropathic pain).</p> <p>Useful for peripheral pain syndromes associated with neuropathic pain, especially shooting, lancinating, or burning pain.</p> <p>Effective for neuropathic pain (e.g., tingling, burning pain) and pain resulting from surgery, chemotherapy, or nerve infiltration.</p> <p>Mild anxiolytic agent with sedative and analgesic property. May produce additive analgesia with therapeutic doses of opioids and may be beneficial in limiting opioid-induced nausea/vomiting.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Pain Management (NIC)</p> <p>Collaborative</p> <p>Samarium SM 153 lexidronam (Quadramet), strontium-89 (Metastron).</p> <p>Provide/instruct in use of PCA, as appropriate.</p> <p>Instruct in use of electrical stimulation (e.g., TENS) unit.</p> <p>Prepare for/assist with procedures, e.g., nerve blocks, cordotomy, commissural myelotomy, radiation therapy.</p> <p>Refer to structured support group, psychiatric clinical nurse specialist/psychologist, spiritual advisor for counseling as indicated.</p>	<p>Effective in treating pain resulting from osteoblastic metastatic bone lesions. Drug onset is about 1 wk with duration of 2–4 mo. May help reduce dosage of opioid analgesics. <i>Note:</i> Bone marrow/WBC and platelet counts may be suppressed for up to 8 wk after administration of the drug.</p> <p>Provides for timely drug administration, preventing fluctuations in intensity of pain, often at lower total dosage than would be given by conventional methods.</p> <p>Transcutaneous electrical nerve stimulation blocks nerve transmission of pain stimulus, providing reduction/relief of pain without drug-related side effects. Can be used in combination with other modalities.</p> <p>May be used in severe/intractable pain unresponsive to other measures. <i>Note:</i> Radiation is especially useful for bone metastasis and may provide fast onset of pain relief, even with only one treatment.</p> <p>May be necessary to reduce anxiety and enhance patient's coping skills, decreasing level of pain. <i>Note:</i> Hypnosis can heighten awareness and help focus concentration to decrease perception of pain.</p>

<p>NURSING DIAGNOSIS: Nutrition: imbalanced, less than body requirements</p> <p>May be related to</p> <p>Hypermetabolic state associated with cancer Consequences of chemotherapy, radiation, surgery, e.g., anorexia, gastric irritation, taste distortions, nausea Emotional distress, fatigue, poorly controlled pain</p> <p>Possibly evidenced by</p> <p>Reported inadequate food intake, altered taste sensation, loss of interest in food, perceived/actual inability to ingest food Body weight 20% or more under ideal for height and frame, decreased subcutaneous fat/muscle mass Sore, inflamed buccal cavity Diarrhea and/or constipation, abdominal cramping</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Nutritional Status (NOC)</p> <p>Demonstrate stable weight/progressive weight gain toward goal with normalization of laboratory values and be free of signs of malnutrition.</p> <p>Knowledge: Diet (NOC)</p> <p>Verbalize understanding of individual interferences to adequate intake. Participate in specific interventions to stimulate appetite/increase dietary intake.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Nutrition Therapy (NIC)</p> <p>Independent</p> <p>Monitor daily food intake; have patient keep food diary as indicated.</p> <p>Measure height, weight, and triceps skin-fold thickness (or other anthropometric measurements as appropriate). Ascertain amount of recent weight loss. Weigh daily or as indicated.</p> <p>Assess skin/mucous membranes for pallor, delayed wound healing, enlarged parotid glands.</p> <p>Encourage patient to eat high-calorie, nutrient-rich diet, with adequate fluid intake. Encourage use of supplements and frequent/smaller meals spaced throughout the day.</p> <p>Create pleasant dining atmosphere; encourage patient to share meals with family/friends.</p> <p>Encourage open communication regarding anorexia.</p>	<p>Identifies nutritional strengths/deficiencies.</p> <p>If these measurements fall below minimum standards, patient's chief source of stored energy (fat tissue) is depleted. <i>Note:</i> Some women receiving chemotherapy actually gain weight, possibly as a result of drug-induced fatigue reducing activity level and effects of depression and hormonal changes.</p> <p>Helps in identification of protein-calorie malnutrition, especially when weight and anthropometric measurements are less than normal.</p> <p>Metabolic tissue needs are increased as well as fluids (to eliminate waste products). Supplements can play an important role in maintaining adequate caloric and protein intake.</p> <p>Makes mealtime more enjoyable, which may enhance intake.</p> <p>Often a source of emotional distress, especially for SO who wants to feed patient frequently. When patient refuses, SO may feel rejected/frustrated.</p>
<p>Chemotherapy Management (NIC)</p> <p>Adjust diet before and immediately after treatment, e.g., clear, cool liquids, light/bland foods, candied ginger, dry crackers, toast, carbonated drinks. Give liquids 1 hr before or 1 hr after meals.</p> <p>Control environmental factors (e.g., strong/noxious odors or noise). Avoid overly sweet, fatty, or spicy foods.</p> <p>Encourage use of relaxation techniques, visualization, guided imagery, moderate exercise before meals.</p> <p>Identify patient who experiences anticipatory nausea/vomiting and take appropriate measures.</p> <p>Administer antiemetic on a regular schedule before/during and after administration of antineoplastic agent as appropriate.</p>	<p>The effectiveness of diet adjustment is very individualized in relief of posttherapy nausea. Patients must experiment to find best solution/combination. Avoiding fluids during meals minimizes becoming "full" too quickly.</p> <p>Can trigger nausea/vomiting response.</p> <p>May prevent onset or reduce severity of nausea, decrease anorexia, and enable patient to increase oral intake.</p> <p>Psychogenic nausea/vomiting occurring before chemotherapy generally does not respond to antiemetic drugs. Change of treatment environment or patient routine on treatment day may be effective.</p> <p>Nausea/vomiting are frequently the most disabling and psychologically stressful side effects of chemotherapy.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Chemotherapy Management (NIC)</p> <p>Independent</p> <p>Evaluate effectiveness of antiemetic.</p> <p>Hematest stools, gastric secretions.</p> <p>Collaborative</p> <p>Review laboratory studies as indicated, e.g., total lymphocyte count, serum transferrin, and albumin/prealbumin.</p> <p>Administer medications as indicated:</p> <p>5-HT₃ receptor antagonists, e.g., ondansetron (Zofran), granisetron (Kytril); phenothiazines, e.g., prochlorperazine (Compazine), thiethylperazine (Torecan); antidopaminergics, e.g., metoclopramide (Reglan); antihistamines, e.g., diphenhydramine (Benadryl);</p> <p>Corticosteroids, e.g., dexamethasone (Decadron); cannabinoids, e.g., dronabinol (Marinol, THC); benzodiazepines, e.g., diazepam (Valium);</p> <p>Vitamins, especially A, D, E, and B₆;</p> <p>Antacids.</p>	<p>Individuals respond differently to all medications. First-line antiemetics may not work, requiring alteration in or use of combination drug therapy.</p> <p>Certain therapies (e.g., antimetabolites) inhibit renewal of epithelial cells lining the GI tract, which may cause changes ranging from mild erythema to severe ulceration with bleeding.</p> <p>Helps identify the degree of biochemical imbalance/malnutrition, and influences choice of dietary interventions. <i>Note:</i> Anticancer treatments can also alter nutrition studies, so all results must be correlated with patient's clinical status.</p> <p>Most antiemetics act to interfere with stimulation of true vomiting center, and chemoreceptor trigger zone agents also act peripherally to inhibit reverse peristalsis. These medications are often prescribed routinely during chemotherapy to prevent nausea and vomiting.</p> <p>Combination therapy (e.g., Torecan with Decadron or Valium) is often more effective than single agents. <i>Note:</i> Studies report that the legal agent Marinol did not provide the same level of relief from nausea and vomiting as did medicinal marijuana. However, because of legal implications and availability of legal medications, medicinal use of marijuana continues to be widely restricted.</p> <p>Prevents deficit related to decreased absorption of fat-soluble vitamins. Deficiency of vitamin B₆ can contribute to/exacerbate depression, irritability.</p> <p>Minimizes gastric irritation and reduces risk of mucosal ulceration.</p>
<p>Nutrition Therapy (NIC)</p> <p>Refer to dietitian/nutritional support team.</p>	<p>Provides for specific dietary plan to meet individual needs and reduce problems associated with protein/calorie malnutrition and micronutrient deficiencies.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Nutrition Therapy (NIC)</p> <p>Collaborative</p> <p>Insert/maintain NG or feeding tube for enteric feedings, or central line for total parenteral nutrition (TPN) if indicated.</p>	<p>In the presence of severe malnutrition (e.g., loss of 25%–30% body weight in 2 mo) or if patient has been NPO for 5 days and is unlikely to be able to eat for another week, tube feeding or TPN may be necessary to meet nutritional needs. <i>Note:</i> TPN is used with caution because it is associated with a more than fourfold increase in the risk of significant infection.</p>

<p>NURSING DIAGNOSIS: Fluid Volume, risk for deficient</p> <p>Risk factors may include</p> <p>Excessive losses through normal routes (e.g., vomiting, diarrhea) and/or abnormal routes (e.g., indwelling tubes, wounds)</p> <p>Hypermetabolic state</p> <p>Impaired intake of fluids</p> <p>Possibly evidenced by</p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Hydration (NOC)</p> <p>Display adequate fluid balance as evidenced by stable vital signs, moist mucous membranes, good skin turgor, prompt capillary refill, and individually adequate urinary output.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p>Fluid/Electrolyte Management (NIC)</p> <p>Independent</p> <p>Monitor I&O and specific gravity; include all output sources, e.g., emesis, diarrhea, draining wounds. Calculate 24-hr balance.</p> <p>Weigh as indicated.</p> <p>Monitor vital signs. Evaluate peripheral pulses, capillary refill.</p> <p>Assess skin turgor and moisture of mucous membranes. Note reports of thirst.</p> <p>Encourage increased fluid intake to 3000 mL/day as individually appropriate/tolerated.</p>	<p>Continued negative fluid balance, decreasing renal output and concentration of urine suggest developing dehydration and need for increased fluid replacement.</p> <p>Sensitive measurement of fluctuations in fluid balance.</p> <p>Reflects adequacy of circulating volume.</p> <p>Indirect indicators of hydration status/degree of deficit.</p> <p>Assists in maintenance of fluid requirements and reduces risk of harmful side effects, e.g., hemorrhagic cystitis in patient receiving cyclophosphamide (Cytosan).</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Fluid/Electrolyte Management (NIC)</p> <p>Independent</p> <p>Observe for bleeding tendencies, e.g., oozing from mucous membranes, puncture sites; presence of ecchymosis or petechiae.</p> <p>Minimize venipunctures (e.g., combine IV starts with blood draws). Encourage patient to consider central venous catheter placement.</p> <p>Avoid trauma and apply pressure to puncture sites.</p> <p>Collaborative</p> <p>Provide IV fluids as indicated.</p> <p>Administer antiemetic therapy. (Refer to ND: Nutrition: imbalanced, less than body requirements.)</p> <p>Monitor laboratory studies, e.g., CBC, electrolytes, serum albumin.</p> <p>Administer transfusions as indicated, e.g.:</p> <p style="padding-left: 40px;">RBCs;</p> <p style="padding-left: 40px;">Platelets.</p> <p>Avoid use of aspirin, gastric irritants, platelet inhibitors or herbs, such as ginseng, green tea, garlic, ginger, ginkgo, or willow bark.</p>	<p>Early identification of problems (which may occur as a result of cancer and/or therapies) allows for prompt intervention.</p> <p>Reduces potential for hemorrhage and infection associated with repeated venous puncture.</p> <p>Reduces potential for bleeding/hematoma formation.</p> <p>Given for general hydration and to dilute antineoplastic drugs and reduce adverse side effects, e.g., nausea/vomiting, or nephrotoxicity.</p> <p>Alleviation of nausea/vomiting decreases gastric losses and allows for increased oral intake.</p> <p>Provides information about level of hydration and corresponding deficits. <i>Note:</i> Malnutrition and effects of decreased albumin levels potentiates fluid shifts/edema formation.</p> <p>May be needed to restore blood count and prevent manifestations of anemia often present in cancer patients, e.g., tachycardia, tachypnea, dizziness, and weakness.</p> <p>Thrombocytopenia (which may occur as a side effect of chemotherapy, radiation, or cancer process) increases the risk of bleeding from mucous membranes and other body sites. Spontaneous bleeding may occur with platelet count of 5000.</p> <p>Negatively affect clotting mechanism and/or potentiate risk of bleeding.</p>

NURSING DIAGNOSIS: Fatigue

May be related to

Decreased metabolic energy production, increased energy requirements (hypermetabolic state and effects of treatment)

Overwhelming psychological/emotional demands

Altered body chemistry: side effects of pain and other medications, chemotherapy

Possibly evidenced by

Unremitting/overwhelming lack of energy, inability to maintain usual routines, decreased performance, impaired ability to concentrate, lethargy/listlessness

Disinterest in surroundings

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Endurance (NOC)

Report improved sense of energy.

Perform ADLs and participate in desired activities at level of ability.

ACTIONS/INTERVENTIONS	RATIONALE
<p>Energy Management (NIC)</p> <p>Independent</p> <p>Have patient rate fatigue, using a numeric scale, if possible, and the time of day when it is most severe.</p> <p>Plan care to allow for rest periods. Schedule activities for periods when patient has most energy. Involve patient/SO in schedule planning.</p> <p>Establish realistic activity goals with patient.</p> <p>Assist with self-care needs when indicated; keep bed in low position, pathways clear of furniture; assist with ambulation.</p> <p>Encourage patient to do whatever possible, e.g., self-bathing, sitting up in chair, walking. Increase activity level as individual is able.</p> <p>Monitor physiological response to activity, e.g., changes in BP or heart/respiratory rate.</p> <p>Perform pain assessment and provide pain management.</p> <p>Encourage nutritional intake. (Refer to ND: Nutrition: imbalanced, less than body requirements.)</p>	<p>Helps in developing a plan for managing fatigue.</p> <p>Frequent rest periods and/or naps are needed to restore/conserves energy. Planning will allow patient to be active during times when energy level is higher, which may restore a feeling of well-being and a sense of control.</p> <p>Provides for a sense of control and feelings of accomplishment.</p> <p>Weakness may make ADLs difficult to complete or place patient at risk for injury during activities.</p> <p>Enhances strength/stamina and enables patient to become more active without undue fatigue.</p> <p>Tolerance varies greatly depending on the stage of the disease process, nutrition state, fluid balance, and reaction to therapeutic regimen.</p> <p>Poorly managed cancer pain can contribute to fatigue.</p> <p>Adequate intake/use of nutrients is necessary to meet energy needs and build energy reserves for activity.</p>

ACTIONS/INTERVENTIONS	RATIONALE
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<p>Energy Management (NIC)</p> <p>Collaborative</p> <p>Provide supplemental oxygen as indicated.</p> <p>Refer to physical/occupational therapy.</p>	<p>Presence of anemia/hypoxemia reduces O₂ available for cellular uptake and contributes to fatigue.</p> <p>Programmed daily exercises and activities help patient maintain/increase strength and muscle tone, enhance sense of well-being. Use of adaptive devices may help conserve energy.</p>
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<p>NURSING DIAGNOSIS: Infection, risk for</p> <p>Risk factors may include</p> <p>Inadequate secondary defenses and immunosuppression, e.g., bone marrow suppression (dose-limiting side effect of both chemotherapy and radiation)</p> <p>Malnutrition, chronic disease process</p> <p>Invasive procedures</p> <p>Possibly evidenced by</p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Infection Status (NOC)</p> <p>Remain afebrile and achieve timely healing as appropriate.</p> <p>Knowledge: Infection Control (NOC)</p> <p>Identify and participate in interventions to prevent/reduce risk of infection.</p>

<p>ACTIONS/INTERVENTIONS</p> <p>Infection Protection (NIC)</p> <p>Independent</p> <p>Promote good handwashing procedures by staff and visitors. Screen/limit visitors who may have infections. Place in reverse isolation as indicated.</p> <p>Emphasize personal hygiene.</p> <p>Monitor temperature.</p>	<p>RATIONALE</p> <p>Protects patient from sources of infection, such as visitors and staff who may have an upper respiratory infection (URI).</p> <p>Limits potential sources of infection and/or secondary overgrowth.</p> <p>Temperature elevation may occur (if not masked by corticosteroids or anti-inflammatory drugs) because of various factors, e.g., chemotherapy side effects, disease process, or infection. Early identification of infectious process enables appropriate therapy to be started promptly.</p>
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<p>ACTIONS/INTERVENTIONS</p> <p>Infection Protection (NIC)</p>	<p>RATIONALE</p>
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<p>Independent</p> <p>Assess all systems (e.g., skin, respiratory, genitourinary) for signs/symptoms of infection on a continual basis.</p> <p>Reposition frequently; keep linens dry and wrinkle-free.</p> <p>Promote adequate rest/exercise periods.</p> <p>Stress importance of good oral hygiene.</p> <p>Avoid/limit invasive procedures. Adhere to aseptic techniques.</p>	<p>Early recognition and intervention may prevent progression to more serious situation/sepsis.</p> <p>Reduces pressure and irritation to tissues and may prevent skin breakdown (potential site for bacterial growth).</p> <p>Limits fatigue, yet encourages sufficient movement to prevent stasis complications, e.g., pneumonia, decubitus, and thrombus formation.</p> <p>Development of stomatitis increases risk of infection/secondary overgrowth.</p> <p>Reduces risk of contamination, limits portal of entry for infectious agents.</p>
<p>Collaborative</p> <p>Monitor CBC with differential WBC and granulocyte count, and platelets as indicated.</p> <p>Obtain cultures as indicated.</p> <p>Administer antibiotics as indicated.</p>	<p>Bone marrow activity may be inhibited by effects of chemotherapy, the disease state, or radiation therapy. Monitoring status of myelosuppression is important for preventing further complications (e.g., infection, anemia, or hemorrhage) and scheduling drug delivery. <i>Note:</i> The nadir (point of lowest drop in blood count) is usually seen 7–10 days after administration of chemotherapy.</p> <p>Identifies causative organism(s) and appropriate therapy.</p> <p>May be used to treat identified infection or given prophylactically in immunocompromised patient.</p>

<p>NURSING DIAGNOSIS: Oral Mucous Membrane, risk for impaired</p> <p>Risk factors may include Side effect of some chemotherapeutic agents (e.g., antimetabolites) and radiation Dehydration, malnutrition, NPO restrictions for more than 24 hr</p> <p>Possibly evidenced by [Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Oral Health (NOC) Display intact mucous membranes, which are pink, moist, and free of inflammation/ulcerations.</p> <p>Self-Care Oral Hygiene (NOC) Verbalize understanding of causative factors. Demonstrate techniques to maintain/restore integrity of oral mucosa.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Oral Health Maintenance (NIC)</p> <p>Independent</p> <p>Assess dental health and oral hygiene periodically.</p> <p>Encourage patient to assess oral cavity daily, noting changes in mucous membrane integrity (e.g., dry, reddened). Note reports of burning in the mouth, changes in voice quality, ability to swallow, sense of taste, development of thick/viscous saliva, blood-tinged emesis.</p> <p>Discuss with patient areas needing improvement and demonstrate methods for good oral care.</p> <p>Initiate/recommend oral hygiene program to include:</p> <ul style="list-style-type: none"> Avoidance of commercial mouthwashes, lemon/ glycerine swabs; Use of mouthwash made from warm saline, dilute solution of hydrogen peroxide, or baking soda and water; Brush with soft toothbrush or foam swab; Floss gently or use WaterPik cautiously; Keep lips moist with lip gloss or balm, K-Y Jelly, Chap Stick; Encourage use of mints/hard candy or artificial saliva(Oralube, Salivart) as indicated. <p>Instruct regarding dietary changes: e.g., avoid hot or spicy foods, acidic juices; suggest use of straw; ingest soft or blenderized foods, Popsicles, and ice cream as tolerated.</p> <p>Encourage fluid intake as individually tolerated.</p> <p>Discuss limitation of smoking and alcohol intake.</p>	<p>Identifies prophylactic treatment needs before initiation of chemotherapy or radiation, and provides baseline data of current oral hygiene for future comparison.</p> <p>Inflammation of the oral mucosa (stomatitis) generally occurs 7–14 days after treatment begins, but signs may be seen as early as day 3 or 4, especially if there were any preexisting oral problems. The range of response extends from mild erythema to severe ulceration, and may extend the length of the GI tract (mucositis), which can be very painful, inhibit oral intake, and is potentially life-threatening. Early identification enables prompt treatment.</p> <p>Good care is critical during treatment to control stomatitis complications.</p> <p>Products containing alcohol or phenol may exacerbate mucous membrane dryness/irritation.</p> <p>May be soothing to the membranes. Rinsing before meals may improve patient’s sense of taste. Rinsing after meals and at bedtime dilutes oral acids and relieves xerostomia.</p> <p>Prevents trauma to delicate/fragile tissues. <i>Note:</i> Toothbrush should be changed at least every 3 mo.</p> <p>Removes food particles that can promote bacterial growth. <i>Note:</i> Water under pressure has the potential to injure gums/force bacteria under gum line.</p> <p>Promotes comfort and prevents drying/cracking of tissues.</p> <p>Stimulates secretions/provides moisture to maintain integrity of mucous membranes, especially in presence of dehydration/ reduced saliva production.</p> <p>Severe stomatitis may interfere with nutritional and fluid intake, leading to negative nitrogen balance or dehydration. Dietary modifications may make foods easier to swallow and may feel soothing.</p> <p>Adequate hydration helps keep mucous membranes moist, preventing drying/cracking.</p> <p>May cause further irritation and dryness of mucous membranes. <i>Note:</i> May need to compromise if these activities are important to patient’s emotional status.</p>

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ACTIONS/INTERVENTIONS	RATIONALE
<p>Oral Health Maintenance (NIC)</p> <p>Independent</p> <p>Monitor for and explain to patient signs of oral superinfection (e.g., thrush).</p> <p>Collaborative</p> <p>Refer to dentist before initiating chemotherapy or head/neck radiation.</p> <p>Culture suspicious oral lesions.</p> <p>Administer medications as indicated, e.g.:</p> <ul style="list-style-type: none"> Analgesic rinses (e.g., mixture of Koatin, pectin, diphenhydramine [Benadryl], and topical lidocaine [Xylocaine]); Antifungal mouthwash preparation, e.g., nystatin (Mycostatin), and antibacterial Biotane; Antinausea agents; Opioid analgesics, e.g., hydromorphone (Dilaudid), morphine. 	<p>Early recognition provides opportunity for prompt treatment.</p> <p>Prophylactic examination and repair work before therapy reduce risk of infection.</p> <p>Identifies organism(s) responsible for oral infections and suggests appropriate drug therapy.</p> <p>Aggressive analgesia program may be required to relieve intense pain. <i>Note:</i> Rinse should be used as a swish-and-spit rather than a gargle, which could anesthetize patient's gag reflex.</p> <p>May be needed to treat/prevent secondary oral infections, such as <i>Candida</i>, <i>Pseudomonas</i>, herpes simplex.</p> <p>When given before beginning mouth care regimen, may prevent nausea associated with oral stimulation.</p> <p>May be required for acute episodes of moderate to severe oral pain.</p>

<p>NURSING DIAGNOSIS: Skin/Tissue Integrity, risk for impaired</p> <p>Risk factors may include</p> <ul style="list-style-type: none"> Effects of radiation and chemotherapy Immunologic deficit Altered nutritional state, anemia <p>Possibly evidenced by</p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Risk Control (NOC)</p> <ul style="list-style-type: none"> Identify interventions appropriate for specific condition. Participate in techniques to prevent complications/promote healing as appropriate.

ACTIONS/INTERVENTIONS	RATIONALE
<p>Chemotherapy [or] Radiation Therapy Management (NIC)</p> <p>Independent</p> <p>Assess skin frequently for side effects of cancer therapy; note breakdown/delayed wound healing. Emphasize importance of reporting open areas to caregiver.</p> <p>Bathe with lukewarm water and mild soap.</p> <p>Encourage patient to avoid vigorous rubbing and scratching and to pat skin dry instead of rubbing.</p> <p>Turn/reposition frequently.</p> <p>Review skin care protocol for patient receiving radiation therapy:</p> <ul style="list-style-type: none"> Avoid rubbing or use of soap, lotions, creams, ointments, powders, or deodorants on area; avoid applying heat or attempting to wash off marks/ tattoos placed on skin to identify area of irradiation; Recommend wearing soft, loose cotton clothing; have female patient avoid wearing bra if it creates pressure; Apply cornstarch, Aquaphor, Lubriderm, Eucerin (or other recommended water-soluble moisturizing gel) to area twice daily as needed; Encourage liberal use of sunscreen/block and breathable, protective clothing. <p>Review skin care protocol for patient receiving chemotherapy, e.g.:</p> <ul style="list-style-type: none"> Use appropriate peripheral or central venous catheter, dilute anticancer drug per protocol and ascertain that IV is infusing well; Instruct patient to notify caregiver promptly of discomfort at IV insertion site; 	<p>A reddening and/or tanning effect (radiation reaction) may develop within the field of radiation. Dry desquamation (dryness and pruritus), moist desquamation (blistering), ulceration, hair loss, loss of dermis and sweat glands may also be noted. In addition, skin reactions (e.g., allergic rashes, hyperpigmentation, pruritus, and alopecia) may occur with some chemotherapy agents.</p> <p>Maintains cleanliness without irritating the skin.</p> <p>Helps prevent skin friction/trauma to sensitive tissues.</p> <p>Promotes circulation and prevents undue pressure on skin/tissues.</p> <p>Designed to minimize trauma to area of radiation therapy.</p> <p>Can potentiate or otherwise interfere with radiation delivery. May actually increase irritation/reaction.</p> <p>Skin is very sensitive during and after treatment, and all irritation should be avoided to prevent dermal injury.</p> <p>Helps control dampness or pruritus. Maintenance care is required until skin/tissues have regenerated and are back to normal.</p> <p>Protects skin from ultraviolet rays and reduces risk of recall reactions.</p> <p>Reduces risk of tissue irritation/extravasation of agent into tissues.</p> <p>Development of irritation indicates need for alteration of rate/dilution of chemotherapy and/or change of IV site to prevent more serious reaction.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Chemotherapy [or] Radiation Therapy Management (NIC)</p> <p>Independent</p> <p>Assess skin/IV site and vein for erythema, edema, tenderness; weltlike patches, itching/burning; or swelling, burning, soreness; blisters progressing to ulceration/tissue necrosis.</p> <p>Wash skin immediately with soap and water if antineoplastic agents are spilled on unprotected skin (patient or caregiver).</p> <p>Advise patients receiving 5-fluorouracil (5-FU) and methotrexate to avoid sun exposure. Withhold methotrexate if sunburn present.</p> <p>Review expected dermatologic side effects seen with chemotherapy, e.g., rash, hyperpigmentation, and peeling of skin on palms.</p> <p>Inform patient that if alopecia occurs, hair could grow back after completion of chemotherapy, but may/may not grow back after radiation therapy.</p> <p>Administer appropriate antidote if extravasation of IV should occur, e.g.:</p> <p>Dimethyl sulfoxide (DMSO);</p> <p>Hyaluronidase (Wydase);</p> <p>Thiosulfate.</p> <p>Apply ice pack/warm compresses per protocol.</p>	<p>Presence of phlebitis, vein flare (localized reaction), or extravasation requires immediate discontinuation of antineoplastic agent and medical intervention.</p> <p>Dilutes drug to reduce risk of skin irritation/chemical burn.</p> <p>Sun can cause exacerbation of burn spotting (a side effect of 5-fluorouracil) or can cause a red “flash” area with methotrexate, which can exacerbate drug’s effect.</p> <p>Anticipatory guidance helps decrease concern if side effects do occur.</p> <p>Anticipatory guidance may help adjustment to/preparation for baldness. Men are often as sensitive to hair loss as women. Radiation’s effect on hair follicles may be permanent, depending on rad dosage.</p> <p>Reduces local tissue damage.</p> <p>Some studies suggest benefit with topical DMSO for mitomycin and doxorubicin (Adriamycin). <i>Note:</i> Injection of diphenhydramine (Benadryl) may relieve symptoms of vein flare.</p> <p>Injected subcutaneously for vincristine (Oncovin), vinblastine (Velban), etoposide (VP-16), vindesine (Eldisine), vinorelbine (Navelbine), teniposide (VM-26), and paclitaxel (Taxol) infiltration.</p> <p>Injected subcutaneously for nitrogen mustard and large amounts (more than 20 cc) of concentrated cisplatin.</p> <p>Controversial intervention depends on type of agent used. Ice restricts blood flow, keeping drug localized, whereas heat enhances dispersion of neoplastic drug/antidote, minimizing tissue damage.</p>

NURSING DIAGNOSIS: Constipation/Diarrhea, risk for

Risk factors may include

Irritation of the GI mucosa from either chemotherapy or radiation therapy; malabsorption of fat
Hormone-secreting tumor, carcinoma of colon
Poor fluid intake, low-bulk diet, lack of exercise, use of opiates/narcotics

Possibly evidenced by

[Not applicable; presence of signs and symptoms establishes an *actual* diagnosis.]

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Bowel Elimination (NOC)

Maintain usual bowel consistency/pattern.
Verbalize understanding of factors and appropriate interventions/solutions related to individual situation.

ACTIONS/INTERVENTIONS	RATIONALE
<p>Bowel Management (NIC)</p> <p>Independent</p> <p>Ascertain usual elimination habits.</p> <p>Assess bowel sounds and monitor/record bowel movements (BMs), including frequency, consistency (particularly during first 3–5 days of vinca alkaloid therapy).</p> <p>Monitor I&O and weight.</p> <p>Encourage adequate fluid intake (e.g., 2000 mL/24 hr), increased fiber in diet; regular exercise.</p> <p>Provide small, frequent meals of foods low in residue (if not contraindicated), maintaining needed protein and carbohydrates (e.g., eggs, cooked cereal, bland cooked vegetables).</p> <p>Adjust diet as appropriate: avoid foods high in fat (e.g., butter, fried foods, nuts); foods with high-fiber content; those known to cause diarrhea or gas (e.g., cabbage, baked beans, chili); food/fluids high in caffeine; or extremely hot or cold food/fluids.</p> <p>Check for impaction if patient has not had BM in 3 days or if abdominal distension, cramping, headache are present.</p>	<p>Data required as baseline for future evaluation of therapeutic needs/effectiveness.</p> <p>Defines problem, i.e., diarrhea, constipation. <i>Note:</i> Constipation is one of the earliest manifestations of neurotoxicity.</p> <p>Dehydration, weight loss, and electrolyte imbalance are complications of diarrhea. Inadequate fluid intake may potentiate constipation.</p> <p>May reduce potential for constipation by improving stool consistency and stimulating peristalsis; can prevent dehydration associated with diarrhea.</p> <p>Reduces gastric irritation. Use of low-fiber foods can decrease irritability and provide bowel rest when diarrhea present.</p> <p>GI stimulants that may increase gastric motility/frequency of stools.</p> <p>Further interventions/alternative bowel care may be needed.</p>

ACTIONS/INTERVENTIONS	RATIONALE
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<p>Bowel Management (NIC)</p> <p>Collaborative</p> <p>Monitor laboratory studies as indicated, e.g., electrolytes.</p> <p>Administer IV fluids;</p> <p>Antidiarrheal agents;</p> <p>Stool softeners, laxatives, enemas as indicated.</p>	<p>Electrolyte imbalances may be the result of/contribute to altered GI function.</p> <p>Prevents dehydration, dilutes chemotherapy agents to diminish side effects.</p> <p>May be indicated to control severe diarrhea.</p> <p>Prophylactic use may prevent further complications in some patients (e.g., those who will receive vinca alkaloid, have poor bowel pattern before treatment, or have decreased motility).</p>
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<p>NURSING DIAGNOSIS: Sexuality Patterns, risk for ineffective</p> <p>Risk factors may include</p> <p>Knowledge/skill deficit about alternative responses to health-related transitions, altered body function/structure, illness, and medical treatment</p> <p>Overwhelming fatigue</p> <p>Fear and anxiety</p> <p>Lack of privacy/SO</p> <p>Possibly evidenced by</p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Sexual Functioning (NOC)</p> <p>Verbalize understanding of effects of cancer and therapeutic regimen on sexuality. Identify measures to correct/deal with problems.</p> <p>Maintain sexual activity at a desired level as possible.</p>

<p>ACTIONS/INTERVENTIONS</p> <p>Sexual Counseling (NIC)</p> <p>Independent</p> <p>Discuss with patient/SO the nature of sexuality and reactions when it is altered or threatened. Provide information about normality of these problems and that many people find it helpful to seek assistance with adaptation process.</p>	<p>RATIONALE</p> <p>Acknowledges legitimacy of the problem. Sexuality encompasses the way men and women view themselves as individuals and how they relate to each other in every area of life.</p>
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ACTIONS/INTERVENTIONS	RATIONALE
<p>Sexual Counseling (NIC)</p> <p>Independent</p> <p>Advise patient of side effects of prescribed cancer treatment that are known to affect sexuality.</p> <p>Provide private time for hospitalized patient. Knock on door and receive permission from patient/SO before entering.</p> <p>Collaborative</p> <p>Refer to sex therapist as indicated.</p>	<p>Anticipatory guidance can help patient and SO begin the process of adaptation to new state.</p> <p>Sexual needs do not end because patient is hospitalized. Intimacy needs continue, and an open and accepting attitude for the expression of those needs is essential.</p> <p>May require additional assistance in dealing with situation.</p>

<p>NURSING DIAGNOSIS: Family Processes, risk for interrupted</p> <p>Risk factors may include</p> <p>Situational/transitional crises: long-term illness, change in roles/economic status</p> <p>Developmental: anticipated loss of a family member</p> <p>Possibly evidenced by</p> <p>[Not applicable; presence of signs and symptoms establishes an <i>actual</i> diagnosis.]</p> <p>DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:</p> <p>Family Coping (NOC)</p> <p>Express feelings freely.</p> <p>Demonstrate individual involvement in problem-solving process directed at appropriate solutions for the situation.</p> <p>Encourage and allow member who is ill to handle situation in own way.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Family Process Maintenance (NIC)</p> <p>Independent</p> <p>Note components of family, presence of extended family and others, e.g., friends/neighbors.</p> <p>Identify patterns of communication in family and patterns of interaction between family members.</p> <p>Assess role expectations of family members and encourage discussion about them.</p>	<p>Helps patient and caregiver know who is available to assist with care/provide respite and support.</p> <p>Provides information about effectiveness of communication, and identifies problems that may interfere with family's ability to assist patient and adjust positively to diagnosis/treatment of cancer.</p> <p>Each person may see the situation in own individual manner, and clear identification and sharing of these expectations promote understanding.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Family Process Maintenance (NIC)</p>	
<p>Independent</p>	
<p>Assess energy direction, e.g., are efforts at resolution/problem solving purposeful or scattered?</p>	<p>Provides clues about interventions that may be appropriate to assist patient and family in directing energies in a more effective manner.</p>
<p>Note cultural/religious beliefs.</p>	<p>Affects patient/SO reaction and adjustment to diagnosis, treatment, and outcome of cancer.</p>
<p>Listen for expressions of helplessness.</p>	<p>Helpless feelings may contribute to difficulty adjusting to diagnosis of cancer and cooperating with treatment regimen.</p>
<p>Deal with family members in a warm, caring, respectful way. Provide information (verbal/written), and reinforce as necessary.</p>	<p>Provides feelings of empathy and promotes individual's sense of worth and competence in ability to handle current situation.</p>
<p>Encourage appropriate expressions of anger without reacting negatively to them.</p>	<p>Feelings of anger are to be expected when individuals are dealing with the difficult/potentially fatal illness of cancer. Appropriate expression enables progress toward resolution of the stages of the grieving process.</p>
<p>Acknowledge difficulties of the situation, e.g., diagnosis and treatment of cancer, possibility of death.</p>	<p>Communicates acceptance of the reality patient/family are facing.</p>
<p>Identify and encourage use of previous successful coping behaviors.</p>	<p>Most people have developed effective coping skills that can be useful in dealing with current situation.</p>
<p>Stress importance of continuous open dialogue between family members.</p>	<p>Promotes understanding and assists family members to maintain clear communication and resolve problems effectively.</p>
<p>Collaborative</p>	
<p>Refer to support groups, clergy, family therapy as indicated.</p>	<p>May need additional assistance to resolve problems of disorganization that may accompany diagnosis of potentially terminal illness (cancer).</p>

NURSING DIAGNOSIS: Knowledge, deficient [Learning Need] regarding illness, prognosis, treatment, self-care, and discharge needs

May be related to

Lack of exposure/recall; information misinterpretation, myths
Unfamiliarity with information resources
Cognitive limitation

Possibly evidenced by

Questions/request for information, verbalization of problem
Statement of misconception
Inaccurate follow-through of instructions, development of preventable complications

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Knowledge: Illness Care (NOC)

Verbalize accurate information about diagnosis, prognosis, and potential complications at own level of readiness.
Verbalize understanding of therapeutic needs.
Correctly perform necessary procedures and explain reasons for the actions.
Initiate necessary lifestyle changes and participate in treatment regimen.
Identify/use available resources appropriately.

ACTIONS/INTERVENTIONS	RATIONALE
<p>Teaching: Disease Process (NIC)</p> <p>Independent</p> <p>Review with patient/SO understanding of specific diagnosis, treatment alternatives, and future expectations.</p> <p>Determine patient's perception of cancer and cancer treatment(s); ask about patient's own experience or experience with other people who have (or had) cancer.</p> <p>Provide clear, accurate information in a factual but sensitive manner. Answer questions specifically, but do not bombard with unessential details.</p> <p>Provide anticipatory guidance with patient/SO regarding treatment protocol, length of therapy, expected results, possible side effects. Be honest with patient.</p> <p>Ask patient for verbal feedback, and correct misconception about individual's type of cancer and treatment.</p>	<p>Validates current level of understanding, identifies learning needs, and provides knowledge base from which patient can make informed decisions.</p> <p>Aids in identification of ideas, attitudes, fears, misconceptions, and gaps in knowledge about cancer.</p> <p>Helps with adjustment to the diagnosis of cancer by providing needed information along with time to absorb it. <i>Note:</i> Rate and method of giving information may need to be altered to decrease patient's anxiety and enhance ability to assimilate information.</p> <p>Patient has the right to know (be informed) and participate in decision tree. Accurate and concise information helps dispel fears and anxiety, helps clarify the expected routine, and enables patient to maintain some degree of control.</p> <p>Misconceptions about cancer may be more disturbing than facts and can interfere with treatments/delay healing.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Teaching: Disease Process (NIC)</p>	
<p>Independent</p>	
<p>Outline normally expected limitations (if any) on ADLs (e.g., difficulty cooking meals when nauseated/fatigued, limit sun exposure, alcohol intake; loss of work time because of effects of treatments).</p>	<p>Enables patient/SO to begin to put limitations into perspective and plan/adapt as indicated.</p>
<p>Provide written materials about cancer, treatment, and available support systems.</p>	<p>Anxiety and preoccupation with thoughts about life and death often interfere with patient's ability to assimilate adequate information. Written, take-home materials provide reinforcement and clarification about information as patient needs it.</p>
<p>Review specific medication regimen and use of OTC drugs.</p>	<p>Enhances ability to manage self-care and avoid potential complications, drug reactions/interactions.</p>
<p>Address specific home care needs, e.g., ability to live alone, perform necessary treatments/procedures, and acquire supplies.</p>	<p>Provides information regarding changes that may be needed in current plan of care to meet therapeutic needs.</p>
<p>Do predischarge home evaluation as indicated.</p>	<p>Aids in transition to home setting by providing information about needed changes in physical layout, acquisition of needed supplies.</p>
<p>Refer to community resources as indicated: e.g., social services, home health agencies, Meals on Wheels, local chapter American Cancer Society, respite care, hospice center/services.</p>	<p>Promotes competent self-care and optimal independence. Maintains patient in desired/home setting.</p>
<p>Review with patient/SO the importance of maintaining optimal nutritional status.</p>	<p>Promotes well-being, facilitates recovery, and is critical in enabling patient to tolerate treatments.</p>
<p>Encourage diet variations and experimentation in meal planning and food preparation, e.g., cooking with sweet juices, wine; serving foods cold or at room temperature as appropriate (e.g., ice cream, egg salad).</p>	<p>Creativity may enhance flavor and intake, especially when protein foods taste bitter.</p>
<p>Recommend cookbooks that are designed for cancer patients.</p>	<p>Helps provide specific menu/recipe ideas.</p>
<p>Recommend increased fluid intake and fiber in diet, as well as routine exercise.</p>	<p>Improves consistency of stool and stimulates peristalsis.</p>
<p>Instruct patient to assess oral mucous membranes routinely, noting erythema, ulceration.</p>	<p>Early recognition of problems promotes early intervention, minimizing complications that may impair oral intake and provide avenue for systemic infection.</p>

ACTIONS/INTERVENTIONS	RATIONALE
<p>Teaching: Disease Process (NIC)</p> <p>Independent</p> <p>Advise patient concerning skin and hair care: e.g., avoid harsh shampoos, hair dyes, permanents, salt water, chlorinated water; avoid exposure to strong wind and extreme heat or cold; avoid sun exposure to target area for 1 yr after end of radiation treatments; and regularly apply sunblock (SPF 15 or higher).</p> <p>Review signs/symptoms requiring medical evaluation (depending on individual situation), e.g., infection, delayed healing, drug reactions, increased pain; or swelling of face/eyes/lips, hands/arms that may worsen when lying down, dyspnea/cough, headache, and visual disturbances suggestive of superior vena cava syndrome (SVCS).</p> <p>Stress importance of continuing medical follow-up.</p> <p>Encourage periodic review of advance directives. Promote inclusion of family/SO in decision-making process.</p>	<p>Prevents additional hair damage and skin irritation; may prevent recall reactions.</p> <p>Early identification and treatment may limit severity of complications. <i>Note:</i> The use of central venous access devices for various therapies, e.g., chemotherapy, total parenteral nutrition (TPN), or antibiotic administration, may cause local vein trauma leading to SVCS days/months, or even years, after catheter insertion.</p> <p>Provides ongoing monitoring of progression/resolution of disease process and opportunity for timely diagnosis and treatment of complications and early detection of second malignancies. <i>Note:</i> Some complications can develop long after therapy is completed, e.g., pathological fractures, radiation cystitis, nephritis, or pneumonitis. Periodic thyroid function tests are indicated for patients with radiation to the neck/upper chest because hypothyroidism may develop.</p> <p>Patient/family/SO need to reevaluate choices as condition changes (for better/worse) and treatment options become available or are exhausted.</p>

POTENTIAL CONSIDERATIONS following acute hospitalization (dependent on patient's age, physical condition/presence of complications, personal resources, and life responsibilities)

In addition to Potential Considerations in specific plans of care (e.g., leukemia, mastectomy):

Coping, ineffective—situational crises, vulnerability.

Self-Care deficit/Home Maintenance, impaired—decreased strength/endurance, pain/discomfort, depression, insufficient finances, unfamiliarity with neighborhood resources, inadequate support systems.

Caregiver Role Strain, risk for—illness severity of care receiver, significant home care needs, situational stressors, complexity/amount of caregiving tasks.

Pain—disease process (compression/destruction of nerve tissue, infiltration of nerves or their vascular supply, obstruction of a nerve pathway, inflammation).

Therapeutic Regimen: ineffective management—complexity of therapeutic regimen, economic difficulties, decisional conflict, perceived barriers, powerlessness, social support deficits.