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PURPOSE

The purpose of this course is to review Oncology and how to care for the patient who has a diagnosis of cancer. This course is appropriate personnel within the healthcare environment/ settings, such as; ARNP, RN, LPN and CNA who are working in the health care settings, Therapists as well as other students, individuals who would like to be educated regarding cancer care for a friend or family member. The course allows you to review the route of administration for Chemotherapy delivery such as Intravenous Route, Oral (by mouth), Subcutaneous Injection, Intrathecal route, I.M. Injection, intra-arterial (IA) route, Intraperitoneal (IP) and topical application. Review radiation therapy action and potential side effects, how to take care of the patient with cancer and various nursing interventions and rationales and Diagnostic Studies / tests that are frequently completed while caring for the cancer patient.

Objectives/ Goals:

After successful completion of this course the students will be able to:

1. Define Oncology
2. Describe how to care for the cancer patient
3. Discuss the 3 major areas of oncology: Medical, Surgical, and Radiation.
4. Discuss Chemotherapy action and potential side effects
5. Discuss the route of administration for Chemotherapy delivered such as Intravenous Route, Oral (by mouth), Subcutaneous Injection, Intrathecal route, I.M. Injection, intra-arterial (IA) route, Intraperitoneal (IP) and topical application.
6. Discuss radiation therapy action and potential side effects
7. Discuss Diagnostic Studies / tests that are frequently completed while caring for the cancer patient
8. Discuss some potential nursing diagnosis, nursing interventions and rationales

INTRODUCTION

ONCOLOGY

Oncology is defined as the study of cancer. An oncologist is a physician who treats cancer. The oncologist manages a patient's care and treatment when the patient has been diagnosed with cancer.

The field of oncology has 3 major areas:

- Medical,
- Surgical, and
- Radiation.

MEDICAL ONCOLOGY

The medical oncologists treat cancer using chemotherapy or other medications, for example targeted therapy.

SURGICAL ONCOLOGY

The surgical oncologists remove the tumor and the nearby tissue during a surgical procedure. The surgical oncologists also perform certain types of biopsies.

RADIATION ONCOLOGY

The radiation oncologists treat the cancer using radiation therapy.

There are other types of oncologists such as:

PEDIATRIC ONCOLOGIST

The Pediatric oncologist works with children who have cancer. Some types of cancer occur most often in children /teenagers, for example certain types of leukemia, brain tumors, osteosarcoma.

GYNECOLOGIC ONCOLOGIST

The gynecologic oncologist focuses on treating gynecologic cancers, for example cervical cancer and uterine cancer.

HEMATOLOGIST ONCOLOGIST

The hematologist oncologist diagnoses and treats blood cancers, for example myeloma, leukemia, and lymphoma.

Some of the roles of the oncologist include:

- Discussing and providing an explanation to the patient regarding the cancer diagnosis and stage of the cancer.
- Providing high quality patient care
- Helps the patients manage the pain that is related to cancer
- Helps the patients manage symptoms
- Helps the patients manage treatment side effects
- Discuss with the patient, all the significant treatment options and the recommendations made by the oncologists
- Providing high quality compassionate care

Some medical personnel who may also be involved in the patient's care include:

DIAGNOSTIC RADIOLOGIST

The Diagnostic radiologist specializes in completing and reading imaging tests to diagnose disease for example x-rays or ultrasound or x-rays.

Pathologist

Pathologist specializes in reading laboratory tests and checking cells, tissues, and organs to diagnose disease.

Oncology social worker

The roles of the oncology social worker includes providing assistance to the patients, their families, and caregivers to face and deal with the cancer diagnosis. Social workers are skilled and educated and skilled to assist with the psychological, emotional, social and spiritual issues that the patients have to deal with in oncology.

The oncology team may also include physicians who specialize in other areas of medicine and an oncology nurse.

When a patient's cancer diagnosis is very complex, the patient's oncologist might ask a tumor board to review the patient's case. The tumor board is made up of medical experts from all relevant areas; they will help to decide the best course of treatment.

A patient with cancer is often treated by a team of oncologists who specialize in different areas of oncology. This approach is helpful because cancer treatment frequently involves a combination of chemotherapy, radiation therapy and surgery.

Chemotherapy

Chemotherapy is a drug treatment that uses powerful chemicals to control or kill fast-growing cells in the body. Chemotherapy is most often used to treat cancer, since cancer cells grow and multiply much more quickly than most cells in the body. Chemotherapy works by slowing or stopping the growth of the cancer cell, which grows and divides rapidly.

Chemotherapy can also harm the healthy cells that also divide quickly, such as the cells that line the intestines and the mouth or the cells that cause hair to grow. Therefore damage to the healthy cells may cause some side effects. Most often, the side effects are reduced or go away after the chemotherapy is over.

Depending on the type of cancer and how advanced it is chemotherapy can:

- Cure cancer: when the chemotherapy destroys cancer cells to the point that the physician can no longer detect the cancer cells in the body and they will not grow back.

- Control cancer: when chemotherapy keeps the cancer from spreading, slows its growth, or destroys cancer cells that have spread to other parts of the body.

- Ease cancer symptoms (palliative care): when chemotherapy shrinks cancer cells or tumors that are causing pressure or pain.

Sometimes, chemotherapy is used as the only cancer treatment. At other times, chemotherapy will be used along with radiation therapy or surgery.
Chemotherapy may be given in cycles. A cycle is a period of chemotherapy treatment followed by a period of rest. The rest period gives the body a chance to build new healthy cells.

Chemotherapy is delivered via:

- Intravenous (I.V.) route - The chemotherapy goes directly into a vein
- Oral (by mouth) - The chemotherapy comes in pills, capsules, or liquids that the patient can swallow.
- Subcutaneous Injection- The chemotherapy is given by an injection/ shot right under the skin into the fatty part of the arm, leg, or belly.
- Intrathecal- injected into the fluid-filled space between the thin layers of tissue that cover the brain and spinal cord
- I.M. Injection. The chemotherapy is given by a shot in a muscle in the arm, thigh, or hip.
- intra-arterial (IA)- The chemotherapy goes directly into the artery that is feeding the tumor/ cancer.
- Intraperitoneal (IP). The chemotherapy goes directly into the peritoneal cavity (the area that has organs such as the intestines, liver, stomach and ovaries).
- Topically- The chemotherapy comes in a cream that can be rubbed onto the skin

The healthy cells as well as the cancerous cells go through similar life cycle and they are affected and vulnerable to the chemotherapy drugs in similar manner. Therefore, patients will be given cycle specific and /or cycle-nonspecific medications.

Cell -cycle specific medications are chemotherapy drugs that are able to kill cancer cells during a specific phase and are unable to work in the resting phase.

cycle-nonspecific medications are Chemotherapy drugs that act against cancer cells at any phase of the cell cycle, including the resting phase. Cell-cycle nonspecific drugs are most effective when given in bolus doses. Cell death may not take place at the exact time the chemotherapy is given.

Physicians often combine specific and non-specific chemotherapies so that they can complement each other and work together.

Cancer care teams use various methods to gauge if the treatment is working, depending on the type of cancer being treated.

Many patients will have radiology studies such as:

- CT scans- computerized tomography
- MRI - Magnetic Resonance Imaging
- Pet scans - positron emission tomography

These radiology studies will see if the tumor has responded; either reduce / shrunk or stayed the same versus has gotten larger or spread.

Some types of tumors can be followed by checking a tumor marker in the blood. This is a substance that is either produced by the tumor or by the body in response to the tumor, and can be measured by a blood test. If the chemotherapy is working, the blood test would reveal that the tumor marker has decreased. In some cases, a decrease in a patient's symptoms might be a sign of whether the medications are working against the tumor or not.

Many health care institutions require nurses involved in the administration of chemotherapy to complete a certification program, which covers the different types of chemotherapy agents, how to administer the drugs safely, the possible side effects, complications that may be encountered and how to care for the patient with cancer. When taking care of the patient who is receiving chemotherapy, you have to take precautions to avoid any accidental exposure from the patient’s body fluids.

Some precautions include:

- Wearing an impermeable gown which has long sleeves and a closed front,
- goggles, mask / face shield,
- Chemotherapy gloves (If no chemotherapy gloves are available, two pairs of non-latex or latex gloves can be used).

If the chemotherapy medications or the patient's body fluids come in contact with your skin, wash the skin thoroughly with soap and water to prevent the medication from absorbing into your skin.

If the fluids or the medications come into contact with your eye, immediately flood the eye with water for at least 5 minutes, while holding the eyelid open, isotonic eyewash may also be used to wash your eye. Always update your supervisor immediately after an accidental exposure.

Some complications from chemotherapy administration:

Infusion related complications include:

- Infiltration,
- Extravasation,
- Vein flare (a bright redness),
- Anaphylactic reaction

Some Short term adverse effects:

- Hair loss / alopecia
- stomatitis
- Nausea and vomiting,
- Diarrhea,
- Myelosuppression (condition in which bone marrow activity is decreased)

Some Long term adverse effects:

Organ system dysfunction: Gastrointestinal, renal, pulmonary, cardiac, reproductive, neurologic dysfunction, early menopause and weight gain. Rare side effects include heart problems and leukemia.

RADIATION THERAPY

Radiation therapy uses high-energy radiation to shrink tumors and kill cancer cells. Types of radiation used for cancer treatment are;

- X-rays,
- gamma rays, and
- charged particles.

The radiation may be delivered by a machine outside the body (external-beam radiation therapy), or it may come from radioactive material placed in the body near cancer cells (internal radiation therapy, also called brachytherapy).

Systemic radiation therapy uses radioactive substances, such as radioactive iodine, that travel in the blood to kill cancer cells.

About 1/2 of all cancer patients receive some type of radiation therapy sometime during the course of their treatment.

Radiation therapy kills cancer cells by damaging their Deoxyribonucleic acid (DNA) the molecule that carries most of the genetic instructions used in the growth and development, functioning and the reproduction of all known living organisms

Radiation therapy can either damage Deoxyribonucleic acid (DNA) directly or create charged particles (free radicals) within the cells that can in turn damage the Deoxyribonucleic acid (DNA).

When the cancer cell Deoxyribonucleic acid (DNA) is damaged beyond repair, it stops dividing or it dies. When these damaged cells are dead, they are then broken down and eliminated by the body.

Radiation therapy is sometimes given with curative intent (with the hope that the treatment will either eliminate the tumor, and /or prevent the cancer from reoccurring.

Radiation therapy may be used alone or in combination with surgery, chemotherapy, or both.

Radiation therapy may also be given for palliative purposes. Palliative treatments are not intended to cure but to relieve symptoms and also to reduce suffering caused by the cancer.

CARING FOR THE PATIENT WITH CANCER

Some Nursing Priorities for patients with cancer:

Promote comfort (patients often experience pain/discomfort)
Prevent complications

Maintain optimal physiological functioning
Support adaptation
Support independence
Provide information about condition, disease process
Provide information about the prognosis,
Provide information about treatment needs

Goals

Pain control
Achieve homeostasis
Prevent Complications or minimize
Patient understands condition, disease process
Patient understands prognosis
Patient understands therapeutic choices
Patient understands and regimen.

Some Diagnostic Studies / Test:

Endoscopy:

Used for direct visualization of the body organs and cavities to detect any abnormalities.

Screening chemistry tests such as:

- Electrolytes;
- sodium,
- calcium,
- potassium
- renal tests such as Blood Urea Nitrogen (BUN)/Creatinine,
- liver tests; Aspartate Aminotransferase (AST), Bilirubin, Lactate Dehydrogenase (LDH), Alkaline phosphatase,

Bone tests such as calcium.

Scans such as magnetic resonance imaging (MRI),
CT, gallium and ultrasound, may be done for identifying metastasis or
for diagnostic purposes or to evaluate for improvement.

Biopsy - fine-needle aspiration, incisional /excisional: can be taken from the skin, bone marrow, organs.

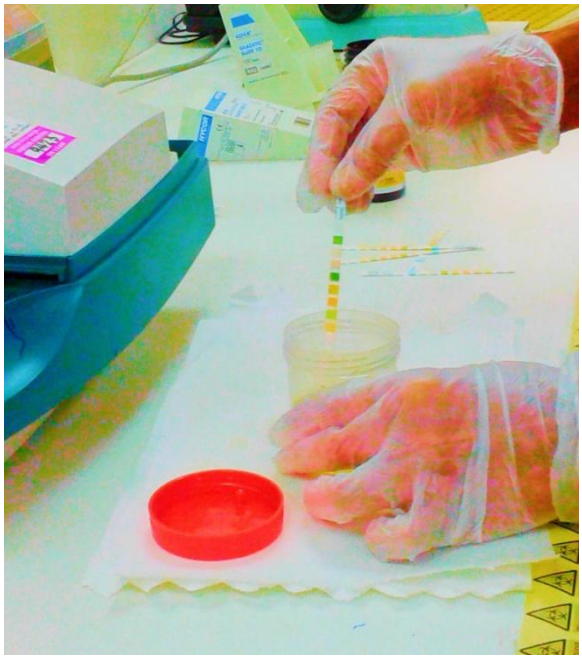
Tumor markers
substances produced, secreted by the tumor cells;
found in serum for example:

Prostate-specific antigen (PSA)
Human chorionic gonadotropin (HCG)
carcinogenic embryonic antigen (CEA),
Alpha-fetoprotein etc.

CBC with differential and platelets:

May indicate anemia,
changes in Red Blood Cells (RBC)
changes in White Blood Cell (WBC);
Decreased or increased platelets.

Chest x-ray:
Screen for metastatic disease of the lungs.



Patient may experience Acute Pain

Pain may be related to –

Disease process -
compression of nerve tissue
destruction of nerve tissue,
infiltration of nerves or
the vascular supply,
obstruction of a nerve pathway,
inflammation.

ACUTE PAIN AS;

Evidenced by:

•Verbalization of pain

•Autonomic responses such as restlessness due to acute pain
•Facial grimace of pain
•Guarding behavior

What are some desired outcomes?

•Experience maximal pain relief
•Follow the prescribed medication regimen
•Pain control with minimal interference with activities of daily living.
•Demonstrate use of relaxation techniques

WHAT SHOULD THE NURSE DO TO ASSIST THE CANCER PATIENTS?

INTERVENTIONS

The nurse needs to determine pain history;

Location of pain,
Pain frequency,
Duration of the pain,
The intensity of the pain (use numeric scale 0–10 scale),
or verbal rating scale - patient reports no pain or severe pain

Pain relief measures used

Determine timing of breakthrough pain when using around the clock agents, Intravenous, oral, Pain patch medications.

Pain may occur near the end of the dose interval, which could indicate need for more medication (higher dose or shorter dose interval).

Nurse needs to be aware of painful effects of various therapies such as: chemotherapy, radiation, surgery, biotherapy.

ALWAYS provide information to patients regarding what to expect.

RATIONALES
Pain may be associated with:
Invasive procedures used to diagnose or to treat the cancer
Incisional pain,
Burning skin,
low back pain etc

Assist with nonpharmacological comfort measures such as:
Changing positions,
Massage,
Backrub
Diversional activities; such as television, reading, music.

RATIONALE
Promotes relaxation of patients and helps to refocus their attention.

Encourage use of stress management techniques
Encourage use of complementary therapies; laughter, relaxation techniques, guided imagery, visualization, biofeedback, music, therapeutic touch, and aromatherapy.

RATIONALE
Help patients participate actively in non-pharmacological treatment of pain.

Provide cutaneous stimulation:
Heat or cold,
Massage

RATIONALE

This may decrease muscle spasms, reduce inflammation, reducing pain.
BE CAREFUL!! - Heat may increase bleeding, edema after an acute injury.
Cold therapy may decrease perfusion to the ischemic tissues.

The nurse needs to be aware of obstacles to cancer pain management;
Patients may not report pain due to:
Worried about medications side effects,
Fear that disease is getting worse,
Cost of treatments,
Worried about controlled substances and addiction

The nurse needs to evaluate pain relief /control at regular intervals and adjust the medication regimen as necessary.

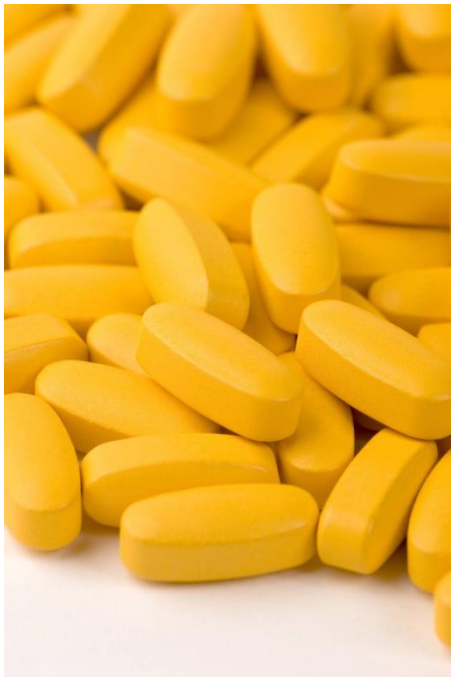
RATIONALE
The goal is for maximum pain control
Pain control with minimum interference with activities of daily living.

Inform the patient of the expected therapeutic effects.
Discuss effective management of the side effects

RATIONALE
This information will help to establish realistic expectations.

Discuss the use of additional alternative therapy or discuss complementary therapies such as acupuncture, acupressure.

RATIONALE
May provide pain relief or reduction without medications or without side effects from medications.



Administer analgesics as indicated:

Opioids:
Codeine,
Morphine (MS Contin),
oxycodone (oxycontin)
hydrocodone (Vicodin),
Hydromorphone (Dilaudid),
Methadone (Dolophine),
Fentanyl (Duragesic),
Oxymorphone (Numorphan)

RATIONALE
Analgesics may be administered around the clock to manage pain.

Administraion of :
Acetaminophen (Tylenol),
Nonsteroidal anti-inflammatory drugs (NSAIDs), Aspirin, Ibuprofen; Advil, Motrin.

RATIONALE
Effective for generalized moderate to severe pain, with long-acting and controlled-release forms.

ADMINISTER;

Peroxicam (Feldene)
Routes include;
oral,
transmucosal,
transdermal,
nasal,
rectal,
infusions; IV,
subcutaneous injection
(IM use not recommended- due to painful, absorption is not reliable).

ADMINISTER:
Indomethacin (Indocin)
Adjuvant drugs are useful for mild to moderate pain and can be combined with opioids and other medications.

ADMINISTER:

Corticosteroids:
Dexamethasone (Decadron)
Very effective in controlling pain that is associated with the inflammatory process for example;
Metastatic bone pain,
Acute spinal cord compression
Neuropathic pain.

Evaluate effectiveness of ALL interventions.

Altered Nutrition: Less Than Body Requirements

Can be related to:

Hyper metabolic state that is associated with the cancer;

• Fatigue, emotional distress, poorly controlled pain
• Consequences of radiation, chemotherapy, surgery, for example;
- anorexia,
- gastric irritation,
- vomiting,
- taste distortions,
- nausea

Evidenced by:

• Diarrhea
• constipation,
• abdominal cramping
• Patient reports loss of appetite, inadequate food intake, loss of interest in food, altered taste, inability to ingest food.
• Inflamed, sore buccal cavity
• Body weight - loss; 20% or higher weight loss (less than ideal for height /frame), decreased subcutaneous tissue /fat, decreased muscle mass.

What are some desired outcomes?

•Demonstrate stable weight
•Progressive weight gain towards goal
•normal laboratory values
•Free of signs of malnutrition
•Verbalize understanding of individual interference to adequate intake.
•Participate in interventions to increase appetite
•Participate in interventions to increase dietary intake.

INTERVENTIONS

Monitor daily food intake (have patient keep food diary).

RATIONALE

This helps to identify nutritional deficiency and /or strengths.

Measure weight, height etc.
To assess the amount of weight loss,
Weigh patient daily

RATIONALE

If the measurements fall below normal ranges, them the patient's fat (main source of stored energy) is reduced.

Encourage the patients to:
Eat high calorie intake,
Eat nutrient rich diet,
Have adequate fluid intake.
Encourage smaller meals spaced through the day
Encourage intake of supplements
Encourage frequent small meals

RATIONALE

Fluid needs have increased (to eliminate waste products)
Metabolic tissue needs have increased
Supplements can assist in maintaining adequate protein and caloric intake.

Assess the skin and mucous membranes for:
Pallor,
Enlarged parotid glands
Delayed wound healing.

RATIONALE
Helps in identifying malnutrition (protein-calorie malnutrition with; body weight less than normal).

Adjust the diet before and after treatment;
clear liquid,
cool liquids,
carbonated drink,
light or bland food,
dry crackers,
toast.

Give liquids 1 hour before or 1 hour after meals.

RATIONALE
Avoiding fluids during meals helps to minimizes being full too quickly.
The effectiveness of diet adjustment- relief of post therapy nausea.

Control environmental factors; strong odors,
Avoid fatty, sweet, spicy foods.
This can trigger nausea/ vomiting.

The patients need a pleasant dining atmosphere
to enhance meal intake.

INTERVENTION
Encourage patients to use relaxation techniques, guided imagery, moderate exercise before meals.

RATIONALE
To prevent onset of nausea or reduce the severity of nausea, and helps the patient to increase meal intake.

INTERVENTIONS

Administer antiemetic on a regular schedule before administration of antineoplastic agent or
Administer antiemetic during administration of antineoplastic agent or
Administration of antiemetic agent after administration of antineoplastic agent.

RATIONALE
Nausea and vomiting are the most common side effects of chemotherapy.

Evaluate effectiveness of antiemetic.

RATIONALE
First line antiemetics may not be effective, and may require adjustment or combination drug therapy.

INTERVENTIONS
Hematest stools and gastric secretions.

RATIONALE
Some antimetabolites inhibit renewal of the epithelial cells of the lining the Gastrointestinal tract, which can cause changes; from mild redness (erythema) to severe bleeding (ulceration).

INTERVENTION

Review laboratory studies such as:
Total lymphocyte count,
serum transferrin,
Albumin
prealbumin.

RATIONALE
Helps to identify the degree of malnutrition, biochemical imbalance, and influences dietary interventions.

Anticancer treatments can alter nutrition studies, therefore all results must be correlated with patient's clinical condition/ status.

Refer patient to dietary support team / Dietician.
RATIONALE
Provides specific diet plan to meet the patient's needs and reduce problems associated with malnutrition (protein, calorie malnutrition).

INTERVENTION
Insert nasogastric (NG) / feeding tube for enteric feeding or
Place central line for total parenteral nutrition (TPN) if ordered.

RATIONALE

With severe malnutrition, which is loss of 25%–30% body weight in 2 months or if the patient has been NPO for 5 days and not unlikely to be able to eat for a few more days, tube feeding or total parental nutrition (TPN) may be needed to meet the nutritional needs.

Risk for Fluid Volume Deficit

Some risk factors may include:
Impaired fluid intake;

•Excessive losses through vomiting, diarrhea, wounds, indwelling tubes, etc.
•Hypermetabolic state

Some desired outcomes

Display adequate fluid balance as evidenced by;
stable vital signs,
moist mucous membranes,
good skin turgor,
prompt capillary refill,
adequate urinary output.

INTERVENTION

Monitor I&O include all sources of output; emesis, diarrhea, draining wound,
Monitor specific gravity.

RATIONALE
If there is decreasing renal output, and concentration of urine suggest dehydration and the need for increase fluid replacement.

INTERVENTION

Weigh patients

RATIONALE
Fluctuations in fluid balance.

INTERVENTION
Monitor vital signs,
Evaluate peripheral pulses,
Check capillary refill.

RATIONALE
Reflects adequacy of circulation /circulating volume.

Assess skin turgor and moisture of mucous membranes. Note reports of thirst./Indirect indicators of hydration status and degree of deficit.

Encourage increased fluid intake (3000 mL per day) if not contraindicated.

RATIONALE
Assists in maintaining fluid requirements and reduce the risk of some harmful side effects for example,
cyclophosphamide (Cytoxan) - hemorrhagic cystitis.

INTERVENTION
Administer IV fluids as ordered.

RATIONALE
IV fluids are administered for general hydration and also to dilute the antineoplastic medications
and decrease adverse side effects such as:
Nausea

vomiting,
Nephrotoxicity.

INTERVENTION

Observe for bleeding tendencies;
Blood coming from mucous membranes,
Blood coming from puncture sites
Presence of ecchymosis
Presence of petechiae.

RATIONALE
Early identification of bleeding problems due to cancer or treatments will allow for quick interventions.

INTERVENTION
Minimize venipuncture procedures by combining IV insertions with phlebotomy /blood draws procedures.
Utilize central venous catheter.

RATIONALE
Reduce discomfort from frequent /repeated venipuncture procedures,
Decreases potential for bleeding /hemorrhage and/ or infection associated with frequent venous puncture.

INTERVENTION
Avoid trauma
Apply pressure to puncture sites.

RATIONALE
Decreases the potential for bleeding or formation of hematoma.

INTERVENTION
Monitor laboratory results such as:
Complete Blood Count (CBC),
Electrolytes,
Serum albumin.

RATIONALE
Laboratory tests will provide information about the level of hydration.

PATIENTS WITH CANCER OFTEN EXPERIENCE
Fatigue

This can be related to:

•Increased energy requirements; hyper-metabolic state
•Effects of treatment
•Poor pain management
•side effects of pain medications
•side effects of chemotherapy
•Overwhelming psychological demands
•Increased emotional demands
•Altered body chemistry

Evidenced by;

• Lack of energy,
• inability to maintain usual routines,

- decreased performance,
- impaired ability to concentrate,
- lethargy
- listless

Some Desired Outcomes:
•Report improved sense of energy
•Perform activities of daily living (ADL)
•Participate in desired activities at level of the patient's ability.

INTERVENTIONS

Have patient rate fatigue (use a numeric scale) and report or note
Time of day when the fatigue is most severe.

RATIONALE
This helps to develop a plan for managing the fatigue.

Assess vital signs to monitor physiological response to activity;
changes in heart rate, respiratory rate, blood pressure.

RATIONALE
Depending on stage of disease process, tolerance vary (fluid balance, nutritional state, reaction to therapeutic regimen).

INTERVENTION
Establish realistic / manageable activity goals with the patient.

RATIONALE
Provides for feelings of accomplishment and
Provides for a sense of control.

INTERVENTION
Monitor for pain (complete pain assessment)
Provide pain management.

RATIONALE
Pain that is not managed appropriately contributes to the fatigue.

INTERVENTION
Provide supplemental oxygen as ordered.

RATIONALE
Presence of Hypoxemia and anemia decreases oxygen available and contributes to fatigue.

INTERVENTION
Allow for rest periods.

Schedule activities for periods when the patient has the most energy.

RATIONALE
Frequent rest periods are necessary to restore energy or to conserve energy.

INTERVENTION
Assist with self-care needs
Assist with ambulation
Maintain safe (clutter free) environment - high risk for falls /injury
Maintain bed in low position,
Keep pathway clear of equipment/furniture.

RATIONALE
Weakness will make activities of daily living very difficult to complete. Weakness /Fatigue increases the patient's risk for injury during all activities.

INTERVENTION
Encourage patients to participate in their care as much as possible for example ambulation activities, bathing etc. Increase the level of activity as the patient is able.

RATIONALE
Enhances strength and enables patient to become more active without overexertion.

INTERVENTION
Refer patient to physical therapy or occupational therapy. Implement use of adaptive devices (Walker etc.) as indicated.

RATIONALE
Programmed activities/ exercises help patients maintain strength, increase strength, increase muscle tone, and enhance sense of well-being. Use of adaptive devices (walker etc) may help patients conserve energy.

Risk for Infection

Some risk factors may include:

•Immunosuppression, for example bone marrow suppression which is often dose- limiting side effect of both radiation and chemotherapy.
•Malnutrition
•Chronic disease process
•Invasive procedures

Some Desired Outcomes include:

•Identify interventions to prevent infection /reduce the risk of infection.
•Participate in interventions to prevent infection /reduce the risk of infection.
•Achieve timely healing

•Remain afebrile

INTERVENTIONS
Promote good hand hygiene (hand washing procedures - staff as well as visitors). Screen visitors and limit visitors who may have infections.
Place patient in reverse isolation as indicated.

RATIONALE
Protects the patient from sources of infection (staff, visitors) who may have upper respiratory infection (URI).

INTERVENTION
Promote personal hygiene.
RATIONALE
Limits potential sources of infection.

INTERVENTION
Monitor vital signs: body temperature.

RATIONALE

Early identification of infectious process (elevated temperature) enables appropriate therapy to be started quickly. Temperature elevation can occur because of multiple factors such as infections, disease process, chemotherapy side effects.

NOTE !!
Temperature elevation can be masked by anti-inflammatory drugs or corticosteroids.

INTERVENTION
Complete assessments of all body systems; respiratory, integumentary, genitourinary, gastrointestinal systems for signs and symptoms of infection.

RATIONALE
Early detection and intervention can assist in preventing the progression to more serious complications or sepsis.

INTERVENTION
Promote adequate rest periods and exercise periods.

RATIONALE
Limits/ reduces fatigue and employs adequate movement/ activities to prevent stasis complications such as decubitus, pneumonia, and thrombus formation.

INTERVENTION
Reposition patient frequently, keep linens dry, keep linen wrinkle free.

RATIONALE
Decreases pressure/ irritation to tissues which helps to prevent skin breakdown.

INTERVENTION
Limit invasive procedures as much as possible.
Maintain aseptic techniques.

RATIONALE
Decreases the risk of contamination, reduces entry for infectious organisms.

INTERVENTION
Promote good oral hygiene.

RATIONALE
If the patients develop stomatitis this increases the risk of infection.

INTERVENTIONS
Monitor Complete Blood Count (CBC) with differential, White Blood Count (WBC) platelets, granulocyte count as ordered.

RATIONALE
Bone marrow activity may be inhibited by the effects of radiation therapy, chemotherapy and the disease state.

Monitoring the status of myelosuppression is vital for preventing complications such as anemia, infection or hemorrhage and scheduling medication delivery.

INTERVENTIONS
Obtain cultures as ordered.

RATIONALE
Identifies the organisms causing the infection and identify the appropriate treatment.

INTERVENTION
Administer antibiotics as ordered.

RATIONALE
Antibiotics may be used to treat infection or administered prophylactically in patients who are immunocompromised.

Risk for Altered Oral Mucous Membranes

Risk factors may include:

- Side effect of some medications such as chemotherapeutic agents; antimetabolites and radiation
- Malnutrition,
- Dehydration,
- NPO restrictions (for more than 24 hr)

Some Desired Outcomes

- Exhibit intact mucous membranes (moist, pink, free of ulcerations and inflammation.
- Demonstrate techniques to maintain integrity of oral mucosa.
- Understands causative factors.

•Demonstrate techniques to restore integrity of oral mucosa.

INTERVENTIONS

Assess dental health status
Check on oral hygiene.

RATIONALE
Provides baseline data of current oral health/ hygiene.
Assist in identifying prophylactic treatments that may be needed before starting chemotherapy or radiation.

INTERVENTION
Keep lips moist with lip balm or gloss, chapstick, K-Y Jelly.

RATIONALE
Prevents drying, cracking of lips, mucous membranes/ tissues and promotes comfort.

INTERVENTION
Instruct patients regarding methods for good oral care. Teach patients to avoid products that contains alcohol or phenol.

RATIONALE
Products that contains alcohol or phenol may exacerbate mucous membrane irritation and dryness.

INTERVENTION
Encourage patients to check oral cavity each day and report any abnormal changes in the mouth. Report changes in voice quality, burning in the mouth, ability to swallow, development of viscous/ thick saliva, changes in sense of taste, blood tinged emesis. Note all changes in the integrity of the mucous membrane; redness, dryness.

RATIONALE
To control stomatitis complications, good care is vital during treatment.

INTERVENTIONS
Brush with soft toothbrush or use a foam swab. Change toothbrush at least every 3 months.

RATIONALE
To prevent trauma to the fragile/ delicate tissues.

INTERVENTIONS
Instruct patients to floss cautiously/ gently.

RATIONALE
Assist in removing food particles that may promote bacterial growth, but extreme caution has to be used due to risk for injury and infection.

INTERVENTIONS
Administer Opioid analgesics such as hydromorphone (Dilaudid), morphine.

RATIONALE
May be needed for acute episodes of moderate to severe oral pain.

INTERVENTIONS
Avoid commercial mouthwashes, glycerine or lemon swabs.

RATIONALE
Rinsing before meals may improve the patient's sense of taste.

INTERVENTIONS
Use of mouthwash such as;
warm saline,
dilute solution of hydrogen peroxide or
baking soda and water;

RATIONALE
Rinsing after meals and at bedtime dilutes the oral acids and relieves xerostomia.

INTERVENTIONS
Encourage use of hard candy or mints or artificial saliva such as; Salivart, Ora-Lube as indicated.

RATIONALE
Provides moisture and stimulates secretions to maintain integrity of the mucous membranes (especially when there is decrease saliva production and dehydration.

INTERVENTIONS
Educate patients regarding dietary changes such as;
avoiding spicy / hot foods,
avoiding acidic juices,
suggest use of straw
ingest soft foods or use a blender to soften foods,
try popsicles / ice cream as able to tolerate.

RATIONALE
Dietary modifications helps to make foods easier to swallow and may feel soothing.
Severe stomatitis may interfere with fluid and nutritional intake leading to dehydration and /or negative nitrogen balance.

INTERVENTIONS
Encourage fluid intake as tolerated.

RATIONALE
Adequate hydration helps keep mucous membranes moist, preventing cracking and drying.

Interventions

Use Antinausea medications

RATIONALE
When given before starting mouth care regimen, may help to prevent nausea that is associated with oral stimulation.

INTERVENTIONS
Discuss limitation of smoking and alcohol intake.

RATIONALE
May cause further dryness and irritation of mucous membranes.

INTERVENTIONS
Monitor for and explain to patient signs of oral superinfection such as Thrush.

RATIONALE
Early detection provides opportunity for prompt treatment.

Refer patients to the dentist before starting chemotherapy or neck or head radiation.

RATIONALE
Prophylactic dental examination and repair work as needed prior to therapy reduce risk of infection.

INTERVENTIONS
Culture suspicious oral lesions.

RATIONALE
Identifies organisms that are responsible for oral infections and indicate appropriate medication/treatment.

INTERVENTIONS

Administer medications as ordered:

Analgesic rinses (mixture of Koatin, pectin, diphenhydramine/ Benadryl, and topical lidocaine /Xylocaine);
Using rinse; Instruct Patients to swish-and-spit; DO NOT gargle.

RATIONALE
Analgesia program is often needed to relieve intense pain. Rinse should be used as a swish-and-spit NOT as a gargle (gargling can anesthetize the patient's gag reflex).

INTERVENTIONS
Use Antifungal mouthwash preparation for example nystatin (Mycostatin) or antibacterial Biotane as ordered.

RATIONALE
Often needed to treat secondary oral infections or to prevent secondary oral infections, for example Candida, herpes simplex, Pseudomonas .

Risk for Impaired Skin Integrity

Risk factors may include;
•Effects of radiation and chemotherapy
•Immunologic deficit
•Altered nutritional state; anemia

Some Desired Outcomes
•Participate in techniques to prevent complications
•Participate in techniques to promote healing.

INTERVENTIONS
Assess skin frequently for side effects of cancer therapy;
Note any skin impairment or breakdown and delay in wound healing.
Instruct patients regarding the importance of reporting open areas to the nurse or caregiver.

RATIONALE
A tanning effect or reddening effect/ radiation reaction, may develop within the field of radiation, desquamation;peeling off of the skin/ dryness and pruritus, moist desquamation/ blistering, ulceration, loss of dermis, hair loss and loss of sweat glands may occur.

Other skin reactions such as hyperpigmentation, allergic rashes, pruritus, alopecia, may occur with some chemotherapy agents.

INTERVENTIONS
Instruct patients that if alopecia (hair loss) occurs, the hair could grow back after completion of chemotherapy; but may or may not grow back after radiation therapy.

RATIONALE
Anticipatory guidance will help in preparing patients for baldness. Radiation's effect on the hair follicles can be permanent, depending on the dosage of radiation.

INTERVENTIONS
Instruct the patients to use lukewarm water with a mild soap for baths.

RATIONALE
To maintain cleanliness/ good hygiene without irritation to the skin.

INTERVENTIONS
Instruct patients to avoid scratching or vigorous rubbing of the skin and to pat the skin dry instead of vigorous rubbing.

RATIONALE
This helps to prevent skin trauma and friction to the sensitive tissues.

INTERVENTIONS
Encourage patients to Turn or Position (T&P) frequently.

RATIONALE
Prevents prolonged pressure on the tissues and the skin and promotes circulation.

INTERVENTION
Review skin care protocol with the patients receiving radiation therapy, such as; avoid use of soap, avoid rubbing, or use of creams, lotions, ointments, deodorants, powders on the area.

RATIONALE
To minimize trauma to area of radiation therapy. Can interfere/interact with radiation delivery. May increase irritation or reaction. The skin is very sensitive during and after radiation treatment. All irritation should be avoided to prevent injury to the skin/dermal injury.

INTERVENTIONS
Instruct patients to avoid heat application or attempts to wash off tattoos or marks placed on skin to identify area of irradiation.

RATIONALE
Avoiding heat applications help to control dampness or pruritus. care of the skin is required until the skin and tissues have regenerated and are back to normal.

INTERVENTIONS
Apply Eucerin, Aquaphor, cornstarch, Lubriderm or other water-soluble moisturizing agents that are recommended; to the area two times per day as needed.

RATIONALE
Reduces the risk of tissue irritation and /or extravasation of agents into the tissues.

INTERVENTIONS
Encourage liberal use of sunblock or sunscreen and breathable, protective clothing.

RATIONALE
Development of irritation indicates need for dilution or changes in rate of chemotherapy and change of Intravenous site to prevent further serious reactions.

INTERVENTIONS
Assess the skin and Intravenous site and vein for edema, erythema, tenderness, patches, burning, itching or swelling, soreness, blisters that progresses to ulcers or tissue necrosis.

RATIONALE
The presence of extravasation, phlebitis or vein flare requires immediate discontinuation of the antineoplastic agent and further medical intervention.

INTERVENTIONS
If the antineoplastic agent is spilled on the unprotected skin; of the patient or nurse /caregiver; Wash the skin immediately with soap and water.

RATIONALE
Dilutes the antineoplastic agent and reduces the risk of skin irritation and chemical burn.

INTERVENTION
Encourage the patients wear loose cotton, soft protective clothing; encourage the female patients to avoid wearing a bra if it is causing pressure on the skin.

RATIONALE
Protects skin from ultraviolet rays, loose clothing and avoid trauma or irritation to skin and reduces risk of reactions.

Review expected dermatologic side effects seen with chemotherapy (rash, hyperpigmentation, and peeling of skin on palms)./Anticipatory guidance helps decrease concern if side effects do occur.

INTERVENTION
Apply ice pack or warm compresses per protocol.

RATIONALE
Intervention depends on type of agent used Follow your facility protocol. Ice constricts therefore, restricts blood flow and keeps the medication

localized. Heat causes vasodilation and enhances the distribution of neoplastic drug or antidote - Always follow the physician's order.

INTERVENTIONS

Instruct patients who are receiving 5-fluorouracil , 5-FU and methotrexate to avoid sun exposure. Withhold the methotrexate if sunburn is present.

RATIONALE
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 the medication's effect.

Risk for Constipation/Diarrhea

Risk factors may include:

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

Some Desired Outcomes

•Verbalize understanding of factors and appropriate interventions
•Maintain usual bowel pattern and bowel consistency.

INTERVENTIONS
Assess for usual elimination habits or changes in normal patterns.

RATIONALE
Baseline information needed as baseline for future evaluation. Noting changes in normal patterns will allow for quick intervention.

INTERVENTIONS
Monitor I&O and monitor weight.

RATIONALE
Inadequate fluid intake can contribute to constipation.
Weight loss, dehydration, electrolyte imbalance are possible complications of diarrhea.

INTERVENTIONS
Increase fiber intake and encourage adequate fluid intake, 2000 mL per 24 hr. Encourage regular exercise.

RATIONALE
May reduce potential for constipation by improving stool consistency and stimulating peristalsis; can prevent dehydration associated with diarrhea.

INTERVENTIONS
Assess bowel sounds and record bowel movements (BMs) including frequency, consistency (particularly during first 3–5 days of Vinca alkaloid therapy).

Defines problem (diarrhea, constipation).
Constipation is one of the earliest manifestations of neurotoxicity.

Provide small, frequent meals of foods low in residue (if not contraindicated), maintaining needed protein and carbohydrates (eggs., cooked cereal, bland cooked vegetables).

Reduces gastric irritation.
Use of low-fiber foods can decrease irritability and provide bowel rest when diarrhea present.

Adjust diet as appropriate:

Avoid foods high in fat (butter, fried foods, nuts); foods with high-fiber content; those known to cause diarrhea or gas (cabbage, baked beans, chili); food and fluids high in caffeine; or extremely hot or cold food and fluids.

Gastrointestinal stimulants that may increase gastric motility frequency of stools.

Check for impaction if patient has not had BM in 3 days or if abdominal distension, cramping, headache are present.

Further interventions and alternative bowel care may be needed.

Monitor laboratory studies as indicated:
Electrolytes/Electrolyte imbalances may contribute to altered Gastrointestinal function.

Administer IV fluids;

Prevents dehydration, dilutes chemotherapy agents to diminish side effects.

Antidiarrheal agents -

May be indicated to control severe diarrhea.

Stool softeners, laxatives, enemas as indicated.

Prophylactic use may prevent further complications in some patients (those who will receive Vinca alkaloid, have poor bowel pattern before treatment, or have decreased motility).

Risk for Altered Family Process

Risk factors may include;

Situational/transitional crises: long-term illness, change in roles/economic status.

Developmental: anticipated loss of a family member

Some Desired Outcomes
•Express feelings freely.
•Demonstrate individual involvement in problem-solving process directed at appropriate solutions for the situation.
•Encourage and allow member who is ill to handle situation in own way.

INTERVENTIONS/RATIONALES

Note components of family, presence of extended family and others (friends and neighbors). This helps patient and caregiver know who is available to assist with care or provide respite and support.

Identify patterns of communication in family and patterns of interaction between family members.

This provides information about effectiveness of communication and identifies problems that may interfere with family's ability to assist patient and adjust positively to diagnosis and treatment of cancer.

Assess role expectations of family members and encourage discussion about them.

Each individual may see the situation in own individual manner, and clear identification and sharing of these expectations promote understanding.

Assess; efforts at resolution and problem solving purposeful?

This provides clues about interventions that may be appropriate to assist patient and family in directing energy/efforts in a more effective manner.

Note cultural and religious beliefs.
This affects patient and family reaction and adjustment to diagnosis, treatment, and outcome of cancer.

Listen for expressions of helplessness.

Helpless feelings may contribute to difficulty adjusting to diagnosis of cancer and cooperating with treatment regimen.

Deal with family members in a warm, caring, respectful way. Provide information (verbal and written), and reinforce as necessary (as allowed – maintain HIPPA regulations and patient's privacy rights).

Dealing with family members in a warm, caring and respectful way provides feelings of empathy and promotes individual's sense of worth and competence in ability to handle current situation.

Encourage appropriate expressions of anger without reacting negatively to them.

Feelings of anger are to be expected when individuals are dealing with the difficult and potentially fatal illness of cancer. Appropriate expression enables progress toward resolution of the stages of the grieving process.

Acknowledge difficulties of the situation (diagnosis and treatment of cancer, possibility of death).

Communicates acceptance of the reality the patient and family are facing.

Identify and encourage use of previous successful coping behaviors.

Most individuals have developed effective coping skills that can be useful in dealing with current situation.

Stress importance of continuous open dialogue between family members.

Promotes understanding and assists family members to maintain clear communication and resolve problems effectively.

Refer to support groups, clergy and family therapy as indicated.
Patient and family may need additional support/ assistance to resolve problems of disorganization that may accompany diagnosis of cancer / potentially terminal illness.

Fear/Anxiety

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).

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:

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

INTERVENTIONS / RATIONALES

Review patient's and family's previous experience with cancer. Determine what the physician has told patient and what conclusion patient has reached.

Clarifies patient's perceptions; assists in identification of fear(s) and misconceptions based on diagnosis and experience with cancer.

Encourage patient to share thoughts and feelings.

Provides opportunity to examine realistic fears and misconceptions about diagnosis.

Provide open environment in which patient feels safe to discuss feelings or to refrain from talking./Helps patient feel accepted in present condition without feeling judged, and promotes sense of dignity and control.

Maintain frequent contact with patient. Talk with and touch patient as appropriate./Provides assurance that patient is not alone or rejected; conveys respect for and acceptance of the person, fostering trust.

Be aware of effects of isolation on patient when required by immunosuppression or radiation implant. Limit use of isolation clothing and masks as possible./Sensory deprivation may result when sufficient stimulation is not available and may intensify feelings of anxiety, fear and alienation.

Assist patient and family in recognizing and clarifying fears to begin developing coping strategies for dealing with these fears./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 and coping strategies are available.

Provide accurate, consistent information regarding diagnosis and prognosis. Avoid arguing about patient's
perceptions of situation./Can reduce anxiety and enable patient to make

decisions and choices based on realities.

Permit expressions of anger, fear, despair without confrontation. Give information that feelings are normal and are to be appropriately expressed./Acceptance of feelings allows patient to begin to deal with situation.

Explain the recommended treatment, its purpose, and potential side effects. Help patient prepare for treatments./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 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.

Explain procedures, providing opportunity for questions and honest answers. Stay with patient during anxiety-producing procedures and consultations./Accurate information allows patient to deal more effectively with reality of situation, thereby reducing anxiety and fear of the unknown.

Provide primary and consistent caregivers whenever possible./May help reduce anxiety by fostering therapeutic relationship and facilitating continuity of care.

Promote calm, quiet environment./Facilitates rest, conserves energy, and may enhance coping abilities.

Identify stage and degree of grief patient and family are currently experiencing./Choice of interventions is dictated by stage of grief, coping behaviors (anger, withdrawal, denial).

Note ineffective coping (poor social interactions, helplessness, giving up everyday functions and usual sources of gratification).

Identifies individual problems and provides support for patient and family in using effective coping skills.

Be alert to signs of denial and depression (withdrawal, anger, inappropriate remarks). Determine presence of suicidal ideation and assess potential on a scale of 1–10.

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.

Encourage and foster patient interaction with support systems.

Reduces feelings of isolation. If family support systems are not available, outside sources may be needed immediately, (local cancer support groups).

Provide reliable and consistent information and support for family.

Allows for better interpersonal interaction and reduction of anxiety and fear.

Include family as indicated or patient desires when major decisions are to be made.

Provides a support system for patient and allows family to be involved appropriately.

ANTICIPATORY GRIEVING

May be related to
Anticipated loss of physiological well-being – for example loss of body part; change in body function; change in lifestyle
Perceived potential death of patient

Possibly evidenced by
Changes in eating habits, alterations in sleep patterns, activity levels, libido, and communication patterns
Denial of potential loss, anger

Desired Outcomes
Identify and express feelings appropriately.
Continue normal life activities, looking toward/planning for the future, one day at a time.
Verbalize understanding of the dying process and feelings of being supported in grief work.

Expect initial shock and disbelief following diagnosis of cancer and traumatizing procedures; disfiguring surgery, colostomy and amputation.

Few patients are fully prepared for the reality of the changes that can occur.

Assess patient and family for stage of grief currently being experienced. Explain process as appropriate.

Knowledge about the grieving process reinforces the normality of feelings and reactions being experienced and can help patient deal more effectively with them.

Provide open, nonjudgmental environment. Use therapeutic communication skills of Active-Listening, acknowledgment, and so on.

Promotes and encourages realistic dialogue about feelings and concerns.

Encourage verbalization of thoughts or concerns and accept expressions of sadness, anger, rejection. Acknowledge normality of these feelings.

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.

Be aware of mood swings, hostility, and other acting-out behavior. Set limits on inappropriate behavior, redirect negative thinking.

Indicators of ineffective coping and need for additional interventions. Preventing destructive actions enables patient to maintain control and sense of self-esteem.

Be aware of debilitating depression. Ask patient direct questions about state of mind.

Studies show that many cancer patients are at high risk for suicide. The patients are especially vulnerable when recently diagnosed and discharged from hospital.

Visit frequently and provide physical contact as appropriate, or provide frequent phone support as appropriate for setting. Arrange for care provider and support person to stay with patient as needed.

Helps reduce feelings of isolation and abandonment.

Reinforce teaching regarding disease process and treatments and provide information as appropriate about dying.

Be honest; do not give false hope while providing emotional support.

Patient and family benefit from factual information. Individuals may ask direct questions about death, and honest answers promote trust and provide reassurances that correct information will be given.
Review past life experiences, role changes, and coping skills. Talk about things that interest the patient.

Opportunity to identify skills that may help individuals cope with grief of current situation more effectively.

Note evidence of conflict; expressions of anger; and statements of despair, guilt and hopelessness.

Interpersonal conflicts or angry behavior may be patient's way of expressing and dealing with feelings of despair or spiritual distress and could be indicative of suicidal ideation.

Determine way that patient and family understand and respond to death such as cultural expectations, learned behaviors, experience with death; close family members, friends, beliefs about life after death, faith in Higher Power.

These factors affect how each individual deals with the possibility of death and influences how they may respond and interact.

Identify positive aspects of the situation.

Possibility of remission and slow progression of disease and new therapies can offer hope for the future.

Discuss ways patient and family can plan together for the future. Encourage setting of realistic goals.

Having a part in problem solving and planning can provide a sense of control over anticipated events.

Refer to visiting nurse, home health agency as needed, or hospice program, as ordered.

Provides support in meeting physical and emotional needs of patient and family, and can supplement the care family and friends are able to give.

Situational Low Self-Esteem

May be related to

Biophysical: disfiguring surgery, chemotherapy or radiotherapy side effects, for example 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 and other's perception of role

Desired Outcomes

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, or personal relationships as appropriate.

INTERVENTIONS/RATIONALES

Discuss with patient and family how the diagnosis and treatment are affecting the patient's personal life, home and work activities.

This helps in defining concerns to begin problem-solving process.

Review anticipated side effects associated with a particular treatment, including possible effects on sexual activity and sense of attractiveness and desirability (alopecia, disfiguring surgery).

Tell patient that not all side effects occur, and others may be minimized or controlled.

Anticipatory guidance can help patient and family begin the process of adaptation to new state and to prepare for some side effects (buying a wig before radiation, schedule time off from work as indicated).

Encourage discussion of concerns about effects of cancer and treatments

on role as homemaker, wage earner, parent, and so forth.

May help reduce problems that interfere with acceptance of treatment or stimulate progression of disease.

Acknowledge difficulties patient may be experiencing. Give information that counseling is often necessary and important in the adaptation process.

Validates reality of patient's feelings and gives permission to take whatever measures are necessary to cope with what is happening.

Evaluate support structures available to and used by patient and family. Helps with planning for care while hospitalized and after discharge.

Provide emotional support for patient and family during diagnostic tests and treatment phase.

Although some patients adapt or adjust to cancer effects or side effects of therapy, many need additional support during this period.

Use touch during interactions, if acceptable to patient, and maintain eye contact.

Affirmation of individuality and acceptance is important in reducing patient's feelings of insecurity and self-doubt.

Refer for professional counseling as indicated.

May be necessary to regain and maintain a positive psychosocial structure if patient and family support systems are deteriorating

LUNG CANCER

Lung cancer is the most common cause of cancer death in men and women. Lung cancer is the carcinoma of the lungs characterized by uncontrolled growth of tissues of the lung. It usually develops within the wall or epithelium of the bronchial tree.

Most common types are:

¬ Epidermoid (squamous cell) carcinoma,
¬ Small cell (oat cell) carcinoma,
¬ Adenocarcinoma, and
¬ Large cell (anaplastic) carcinoma.

Although the prognosis is usually poor, it varies with the extent of metastasis at the time of diagnosis and the cell type growth rate.

Only about 13% of patients with lung cancer survive 5 years after diagnosis.

Lung cancer is frequently attributable to inhalation of carcinogenic pollutants by a susceptible patient (host). Smoker who are older than 40 years old, especially if the patients began to smoke before15 years old, has smoked a whole pack or more per day for 20 years, or works near asbestos.

Pollutants in tobacco smoke cause progressive lung cell degeneration. Lung cancer is 10 times more common in smokers than in nonsmokers.

Cancer risk is determined by:

- The number of cigarettes smoked daily,
- The depth of inhalation,
- How early in life smoking began, and
- The nicotine content of cigarettes.

Nursing Care Plans

Nursing care for patients with lung cancer;

Provide supportive care and patient teaching to minimize complications and speed recovery from surgery, radiation and/or chemotherapy.

IMPAIRED GAS EXCHANGE

May be related to –

•Removal of lung tissue
•Altered oxygen supply (hypoventilation)
•Decreased oxygen-carrying capacity of blood (blood loss)

Possibly evidenced by;

•Dyspnea
•Restlessness/changes in mentation
•Hypoxemia and hypercapnia
•Cyanosis

Some Desired Outcomes –

•Demonstrate improved ventilation and adequate oxygenation of tissues by ABGs within patient's normal range.

•Be free of symptoms of respiratory distress.

INTERVENTIONS/ RATIONALES

Note respiratory rate, depth, and ease of respirations.
Observe for use of accessory muscles, pursed-lip breathing, changes in skin or mucous membrane color, pallor, cyanosis.

Respirations may be increased as a result of pain or as an initial compensatory mechanism to accommodate for loss of lung tissue; however, increased work of breathing and cyanosis may indicate increasing oxygen consumption and energy expenditures and/or reduced respiratory reserve.

Auscultate lungs for air movement and abnormal breath sounds.

Consolidation and lack of air movement on operative side; normal in the pneumonectomy patient; however, the lobectomy patient should demonstrate normal airflow in remaining lobes.

Investigate restlessness and changes in mentation or level of consciousness.

May indicate increased hypoxia or complications such as mediastinal shift in pneumonectomy patient when accompanied by tachypnea, tachycardia, and tracheal deviation.

Assess patient response to activity.
Encourage rest periods and limit activities to patient tolerance.

Increased oxygen consumption demand and stress of surgery can result in increased dyspnea and changes in vital signs with activity; however, early mobilization is desired to help prevent pulmonary complications and to obtain and maintain respiratory and circulatory efficiency. Adequate rest balanced with activity can prevent respiratory compromise.

Note development of fever;

Fever within the first 24 hr after surgery is frequently due to atelectasis. Temperature elevation (within the 5th to 10th postoperative day) usually indicates a wound or systemic infection.

Maintain patent airway by positioning, suctioning, use of airway adjuncts. Airway obstruction interferes with ventilation, impairing gas exchange.

Reposition frequently, placing patient in sitting positions and supine to side positions; this maximizes lung expansion and drainage of secretions.

Avoid positioning patient with a pneumonectomy on the operative side; instead, favor the GOOD lung down position.

Research shows that positioning patients following lung surgery with their good lung down; maximizes oxygenation by using gravity to enhance

blood flow to the healthy lung, thus creating the best possible match between ventilation and perfusion.

Encourage and assist with deep-breathing exercises and pursed-lip breathing as appropriate.

Promotes maximal ventilation and oxygenation and reduces or prevents atelectasis.

Maintain patency of chest drainage system for lobectomy, segmental or wedge resection patient.

Drains fluid from pleural cavity to promote re-expansion of remaining lung segments.

Note changes in amount or type of chest tube drainage.

Bloody drainage should decrease in amount and change to a more serous composition as recovery progresses. A sudden increase in amount of bloody drainage or return to frank bleeding suggests thoracic bleeding or hemothorax; sudden cessation suggests blockage of tube, requiring further evaluation and intervention.

Observe presence or degree of bubbling in water-seal chamber.

Air leaks immediately postoperative are not uncommon, especially following lobectomy or segmental resection; however, this should diminish as healing progresses. Prolonged or new leaks require evaluation to identify problems in patient versus the drainage system.

Administer supplemental oxygen via nasal cannula, partial rebreathing mask, or high-humidity face mask, as indicated.

Maximizes available oxygen, especially while ventilation is reduced because of anesthetic, depression, or pain, and during period of compensatory physiological shift of circulation to remaining functional alveolar units.

Assist with and encourage use of incentive spirometer.

Prevents or reduces atelectasis and promotes re-expansion of small airways.

Monitor and graph ABGs, pulse oximetry readings. Note hemoglobin (Hb) levels.

Decreasing Pao2 or increasing Paco2 may indicate need for ventilatory support. Significant blood loss can result in decreased oxygen-carrying capacity, reducing Pao2.

INEFFECTIVE AIRWAY CLEARANCE

May be related to –

- Increased amount/viscosity of secretions
- Restricted chest movement/pain
- Fatigue/weakness

Possibly evidenced by;

- Changes in rate/depth of respiration
- Abnormal breath sounds
- Ineffective cough
- Dyspnea

Some Desired Outcomes;
Demonstrate patent airway, with fluid secretions easily expectorated, clear breath sounds, and noiseless respirations.

INTERVENTIONS/ RATIONALES

Auscultate chest for character of breath sounds and presence of secretions.

Noisy respirations, rhonchi, and wheezes are indicative of retained secretions and/or airway obstruction.

Assist patient and instruct in effective deep breathing and coughing with upright position/ sitting and splinting of incision.

Upright position favors maximal lung expansion, and splinting improves force of cough effort to mobilize and remove secretions. Splinting may be done by nurse (placing hands anteriorly and posteriorly over chest wall) and by patient (with pillows) as strength improves.

Observe amount and character of sputum or aspirated secretions. Investigate changes as indicated.

Increased amounts of colorless, blood-streaked, or watery secretions are normal initially and should decrease as recovery progresses.

Presence of thick or tenacious, bloody, or purulent sputum suggests development of secondary problems (dehydration, pulmonary edema, local hemorrhage, or infection) that require correction and treatment.

Suction if cough is weak or breath sounds not cleared by cough effort. Avoid deep endotracheal or nasotracheal suctioning in pneumonectomy patient if possible. Suction the patient as needed, and encourage to begin deep breathing and coughing as soon as possible.

Routine suctioning increases risk of hypoxemia and mucosal damage. Deep tracheal suctioning is generally contraindicated following pneumonectomy to reduce the risk of rupture of the bronchial stump suture line. If suctioning is unavoidable, it should be done gently and only to induce effective coughing.

Encourage oral fluid intake (at least 2500 mL/day) within cardiac tolerance.

Adequate hydration aids in keeping secretions loose or enhances expectoration.

Assess for pain or discomfort and medicate on a routine basis and before breathing exercises.

Encourages patient to move, cough more effectively, and breathe more deeply to prevent respiratory insufficiency.

Assist with incentive spirometer, postural drainage and percussion as indicated.

Improves lung expansion or ventilation and facilitates removal of secretions. Postural drainage may be contraindicated in some patients and in any event must be performed cautiously to prevent respiratory embarrassment and incisional discomfort.

Use humidified oxygen and/or ultrasonic nebulizer.

Provide additional fluids by intravenous therapy as indicated. Providing maximal hydration helps loosen or liquefy secretions to promote expectoration. Impaired oral intake necessitates IV supplementation to maintain hydration.

Administer bronchodilators, expectorants, and/or analgesics as indicated.

Relieves bronchospasm to improve airflow.

Expectorants increase mucus production and liquefy and reduce viscosity of secretions, facilitating removal.

Alleviation of chest discomfort promotes cooperation with breathing exercises and enhances effectiveness of respiratory therapies.

ACUTE PAIN

May be related to –

•Surgical incision, tissue trauma, and disruption of intercostal nerves
•Presence of chest tube(s)
•Cancer invasion of pleura, chest wall

Possibly evidenced by;

•Verbal reports of discomfort
•Guarding of affected area
•Distraction behaviors, for example restlessness
•Narrowed focus (withdrawal)
•Changes in Blood pressure, heart rate and /or respiratory rate

Some Desired Outcomes

•Report pain relieved/controlled.
•Appear relaxed and sleep/rest appropriately.
•Participate in desired/needed activities.

INTERVENTIONS/ RATIONALES

Ask patient about pain.

Determine pain characteristics: continuous, aching, stabbing, burning. Have patient rate intensity on a 0–10 scale.

This is helpful in evaluating cancer-related pain symptoms, which may involve viscera, nerve, or bone tissue. Use of rating scale aids patient in assessing level of pain and provides tool for evaluating effectiveness of analgesics, enhancing patient control of pain.

Assess patient's verbal and nonverbal pain cues.

Discrepancy between verbal and/or nonverbal cues may provide clues to degree of pain, need for interventions or effectiveness of interventions.

Note possible pathophysiological and psychological causes of pain.

Fear, distress, anxiety, and grief over confirmed diagnosis of cancer can impair the ability to cope.

The presence of devices such as a chest tube can greatly increase pain /discomfort.

Evaluate effectiveness of pain control.

Encourage sufficient medication to manage pain;

change medication or time span as appropriate.

Pain perception and pain relief are subjective, thus pain management is best left to patient's discretion. If patient is unable to provide input, the nurse should observe physiological and nonverbal signs of pain and administer medications on a regular basis.

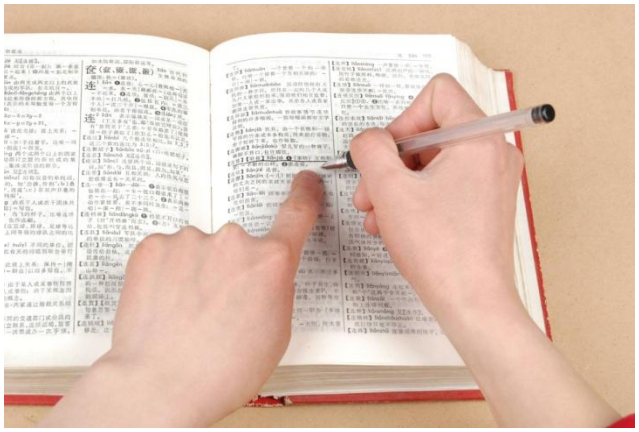
Encourage verbalization of feelings about the pain.

Fears or concerns can increase muscle tension and lower threshold of pain perception.

Provide comfort measures:

Frequent changes of position, back rubs, support with pillows.

Encourage use of relaxation techniques, visualization, guided imagery, and appropriate diversional activities.



Relaxation techniques promote relaxation and redirects attention. Relieves discomfort and augments therapeutic effects of analgesia.

Schedule rest periods, provide quiet environment;

Decreases fatigue and conserves energy, enhancing coping abilities.

Assist with self-care activities, breathing and/or arm exercises, and ambulation;

Prevents undue fatigue and incisional strain.
Encouragement and physical assistance and support may be needed for some time before patient is able or confident enough to perform these activities because of pain or fear of pain.

Assist with patient-controlled analgesia (PCA) or analgesia through epidural catheter. Administer intermittent analgesics routinely as indicated, especially 45–60 min before respiratory treatments, deep-breathing or coughing exercises;

Maintaining a constant drug level avoids cyclic periods of pain, aids in muscle healing, and improves respiratory function and emotional comfort and coping.

TAKE EXAM

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