# AIDS

*Acquired immunodeficiency syndrome* (*AIDS*) is the final result of infection with a retrovirus, the human immunodeficiency virus (HIV). HIV infection is a progressive disease leading to AIDS, as defined by the CDC (January 1994): "persons with CD4 cell count of under 200 (with or without symptoms of opportunistic infection) who are HIV-positive are diagnosed as having AIDS." Research studies in 1995 showed that HIV initially replicates rapidly on a daily basis. The half-life of the virus is 2 days, with almost complete turnover in 14 days. Therefore, the immune response is massive throughout the course of HIV disease. Evidence suggests the cellular immune response is essential in limiting replication and rate of disease progression. Controlling the replication of the virus to lower the viral load is the current focus of treatment.

Persons with HIV/AIDS have been found to fall into five general categories: (1) homosexual or bisexual men, (2) injection drug users, (3) recipients of infected blood or blood products, (4) heterosexual partners of a person with HIV infection, and (5) children born to an infected mother. The rate of infection is most rapidly increasing among minority women and is increasingly a disease of persons of color.

### CARE SETTING

Although many of the interventions listed here are appropriate at the community level, the focus of this plan of care is the acutely ill individual requiring care on an inpatient medical or subacute unit or hospice setting.

### RELATED FACTORS

End of life/hospice care
Extended care
Fluid and electrolyte imbalances
HIV-positive patient
Psychosocial aspects of care
Sepsis/septicemia
Total nutritional support: parenteral/enteral feeding
Upper gastrointestinal/esophageal bleeding
Ventilatory assistance (mechanical)

## Patient Assessment Database

Data depend on the organs/body tissues involved, the current viral load, and the specific opportunistic infection (OI) or cancer.

### ACTIVITY/REST

**May report:** Reduced tolerance for usual activities, progressing to profound fatigue and malaise; weakness
Altered sleep patterns

**May exhibit:** Muscle weakness, wasting of muscle mass
Physiological response to activity, e.g., changes in BP, HR, respiration

### CIRCULATION

**May report:** Slow healing (if anemic); bleeding longer with injury

**May exhibit:** Tachycardia, postural BP changes
Decreased peripheral pulse volume
Pallor or cyanosis; delayed capillary refill

### EGO INTEGRITY

**May report:** Stress factors related to lifestyle changes, losses, e.g., family support, relationships, finances, and spiritual concerns
Concern about appearance: Alopecia, disfiguring lesions, weight loss, altered distribution of body fat (associated with protease-inhibiting drug therapy), thinning of extremities, wrinkling of skin

Denial of diagnosis; feelings of powerlessness, hopelessness, helplessness, worthlessness, guilt, loss of control, depression

**May exhibit:** Denial, anxiety, depression, fear, withdrawal
Angry behaviors, dejected body posture, crying, poor eye contact
Failure to keep appointments or multiple appointments for similar symptoms

## ELIMINATION

**May report:** Difficult and painful elimination; rectal pain, itching
Intermittent, persistent, frequent diarrhea with or without abdominal cramping
Flank pain, burning on urination

**May exhibit:** Loose-formed to watery stools with or without mucus or blood; frequent, copious diarrhea
Abdominal tenderness
Rectal, perianal lesions or abscesses
Changes in urinary output, color, character
Urinary, bowel incontinence

## FOOD/FLUID

**May report:** Anorexia, changes in taste of foods/food intolerance, nausea/vomiting
Rapid/progressive weight loss
Difficulty chewing and swallowing (sore mouth, tongue); dysphagia, retrosternal pain with swallowing
Food intolerance, e.g., diarrhea after dairy products, nausea, early satiation, bloating

**May exhibit:** Hyperactive bowel sounds
Abdominal distension (hepatosplenomegaly)
Weight loss; thin frame; decreased subcutaneous fat/muscle mass
Poor skin turgor
Lesions of the oral cavity, white patches, discoloration; poor dental/gum health, loss of teeth
Edema (generalized, dependent)

## HYGIENE

**May report:** Inability to complete activities of daily living (ADLs) independently

**May exhibit:** Disheveled appearance
Deficits in many or all personal care, self-care activities

## NEUROSENSORY

**May report:** Fainting spells/dizziness; headache; stiff neck
Changes in mental status, loss of mental acuity/ability to solve problems, forgetfulness, poor concentration
Impaired sensation or sense of position and vibration
Muscle weakness, tremors, changes in visual acuity
Numbness, tingling in extremities (feet seem to display earliest changes)
Changes in visual acuity; light flashes/floaters; photophobia

**May exhibit:** Mental status changes ranging from confusion to dementia, forgetfulness, poor concentration, decreased alertness, apathy, psychomotor retardation/slowed responses; paranoid ideation, free-floating anxiety, unrealistic expectations
Abnormal reflexes, decreased muscle strength, ataxic gait
Fine/gross motor tremors, focal motor deficits; hemiparesis, seizures
Retinal hemorrhages and exudates (CMV retinitis); blindness

## PAIN/DISCOMFORT

**May report:** Generalized/localized pain; aching, burning in feet
Headache
Pleuritic chest pain

**May exhibit:** Swelling of joints, painful nodules, tenderness
Decreased range of motion (ROM), gait changes/limp
Muscle guarding

## RESPIRATION

**May report:**
Frequent, persistent upper respiratory infections (URIs)
Progressive shortness of breath
Cough (ranging from mild to severe); nonproductive/productive of sputum (earliest sign of PCP may be a spasmodic cough on deep breathing)
Congestion or tightness in chest
History of exposure to/prior episode of active TB

**May exhibit:**
Tachypnea, respiratory distress
Changes in breath sounds/adventitious breath sounds
Sputum yellow (in sputum-producing pneumonia)

## SAFETY

**May report:**
Exposure to infectious diseases, e.g., TB, STDs
History of other immune deficiency diseases, e.g., rheumatoid arthritis, cancer
History of frequent or multiple blood/blood product transfusions (e.g., hemophilia, major vascular surgery, traumatic incident)
History of falls, burns, episodes of fainting, slow-healing wounds
Suicidal/homicidal ideation with or without a plan

**May exhibit:**
Recurrent fevers; low-grade, intermittent temperature elevations/spikes; night sweats
Changes in skin integrity, e.g., cuts, ulcerations, rashes (eczema, exanthems, psoriasis); discolorations; changes in size/color of moles; unexplained, easy bruising; multiple injection scars (may be infected)
Rectal, perianal lesions or abscesses
Nodules, enlarged lymph nodes in two or more areas of the body (e.g., neck, axilla, groin)
Decline in general strength, muscle tone, changes in gait

## SEXUALITY

**May report:**
History of high-risk behavior, e.g., having sex with a partner who is HIV-positive, multiple sexual partners, unprotected sexual activity, and anal sex
Loss of libido, being too sick for sex; being afraid to engage in any sexual activities
Inconsistent use of condoms
Use of birth control pills (enhanced susceptibility to virus in women who are exposed because of increased vaginal dryness/friability)

**May exhibit:**
Pregnancy or risk for pregnancy (sexually active); pregnancy resulting in HIV-positive infant
Genitalia: Skin manifestations (e.g., herpes, warts); discharge

## SOCIAL INTERACTION

**May report:**
Problems related to diagnosis and treatment, e.g., loss of family/SO, friends, support; fear of telling others; fear of rejection/loss of income
Isolation, loneliness, close friends or sexual partners who have died of or are sick with AIDS
Questioning of ability to remain independent, unable to plan for needs

**May exhibit:**
Changes in family/SO interaction pattern
Disorganized activities, difficulty with goal setting

## TEACHING/LEARNING

**May report:**
Failure to comply with treatment, continued high-risk behavior (e.g., unchanged sexual behavior or injection drug use)
Injection drug use/abuse, current smoking, alcohol abuse
Evidence of failure to improve from last hospitalization

**Discharge plan considerations:**
**DRG projected mean length of stay: 8.2 days (depending on opportunistic infection[s] present)**
Usually requires assistance with finances, medications and treatments, skin/wound care, equipment/supplies; transportation, food shopping and preparation; self-care, technical nursing procedures, homemaker/maintenance tasks, child care; changes in living arrangements

Refer to section at end of plan for postdischarge considerations.

## DIAGNOSTIC STUDIES

***CBC:*** Anemia and idiopathic thrombocytopenia (anemia occurs in up to 85% of patients with AIDS and may be profound). Leukopenia may be present; differential shift to the left suggests infectious process (PCP), although shift to the right may be noted.

***PPD:*** Determines exposure and/or active TB disease. Of AIDS patients, 100% of those exposed to active *Mycobacterium tuberculosis* will develop the disease.

***Serologic:*** *Serum antibody test:* HIV screen by ELISA. A positive test result may be indicative of exposure to HIV but is not diagnostic because false-positives may occur.

***Western blot test:*** Confirms diagnosis of HIV in blood and urine.

***Viral load test:***

*RI-PCR:* The most widely used test currently can detect viral RNA levels as low as 50 copies/mL of plasma with an upper limit of 75,000 copies/mL.

*bDNA 3.0 assay:* Has a wider range of 50–500,000 copies/mL. Therapy can be initiated, or changes made in treatment approaches, based on rise of viral load or maintenance of a low viral load. This is currently the leading indicator of effectiveness of therapy.

*T-lymphocyte cells:* Total count reduced.

*CD4+ lymphocyte count* (*immune system indicator that mediates several immune system processes and signals B cells to produce antibodies to foreign germs*): Numbers less than 200 indicate severe immune deficiency response and diagnosis of AIDS.

*T8+ CTL* (*cytopathic suppressor cells*): Reversed ratio (2:1 or higher) of suppressor cells to helper cells (T8+ to T4+) indicates immune suppression.

*Polymerase chain reaction* (*PCR*) *test:* Detects HIV-DNA; most helpful in testing newborns of HIV-infected mothers. Infants carry maternal HIV antibodies and therefore test positive by ELISA and Western blot, even though infant is not necessarily infected.

***STD screening tests:*** Hepatitis B envelope and core antibodies, syphilis, and other common STDs may be positive.

***Cultures:*** Histologic, cytologic studies of urine, blood, stool, spinal fluid, lesions, sputum, and secretions may be done to identify the opportunistic infection. Some of the most commonly identified are the following:

*Protozoal and helminthic infections:* PCP, cryptosporidiosis, toxoplasmosis.

*Fungal infections: Candida albicans* (candidiasis), *Cryptococcus neoformans* (cryptococcosis), *Histoplasma capsulatum* (histoplasmosis).

*Bacterial infections: Mycobacterium avium-intracellulare* (occurs with CD4 counts less than 50), miliary mycobacterial TB, *Shigella* (shigellosis), *Salmonella* (salmonellosis).

*Viral infections:* CMV (occurs with CD4 counts less than 50), herpes simplex, herpes zoster.

***Neurological studies, e.g., electroencephalogram (EEG), magnetic resonance imaging (MRI), computed tomography (CT) scans of the brain; electromyography (EMG)/nerve conduction studies:*** Indicated for changes in mentation, fever of undetermined origin, and/or changes in sensory/motor function to determine effects of HIV infection/opportunistic infections.

***Chest x-ray:*** May initially be normal or may reveal progressive interstitial infiltrates secondary to advancing PCP (most common opportunistic disease) or other pulmonary complications/disease processes such as TB.

***Pulmonary function tests:*** Useful in early detection of interstitial pneumonias.

***Gallium scan:*** Diffuse pulmonary uptake occurs in PCP and other forms of pneumonia.

***Biopsies:*** May be done for differential diagnosis of Kaposi's sarcoma (KS) or other neoplastic lesions.

***Bronchoscopy/tracheobronchial washings:*** May be done with biopsy when PCP or lung malignancies are suspected (diagnostic confirming test for PCP).

***Barium swallow, endoscopy, colonoscopy:*** May be done to identify opportunistic infection (e.g., *Candida,* CMV) or to stage KS in the GI system.

## NURSING PRIORITIES

1. Prevent/minimize development of new infections.
2. Maintain homeostasis.
3. Promote comfort.
4. Support psychosocial adjustment.
5. Provide information about disease process/prognosis and treatment needs.

## DISCHARGE GOALS

1. Infection prevented/resolved.

2. Complications prevented/minimized.
3. Pain/discomfort alleviated or controlled.
4. Patient dealing with current situation realistically.
5. Diagnosis, prognosis, and therapeutic regimen understood.
6. Plan in place to meet needs after discharge.

**NURSING DIAGNOSIS: Infection, risk for [progression to sepsis/onset of new opportunistic infection]**

**Risk factors may include**

Inadequate primary defenses: broken skin, traumatized tissue, stasis of body fluids
Depression of the immune system, chronic disease, malnutrition; use of antimicrobial agents
Environmental exposure, invasive techniques

**Possibly evidenced by**

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

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Infection Status (NOC)**

Achieve timely healing of wounds/lesions.
Be afebrile and free of purulent drainage/secretions and other signs of infectious conditions.

**Risk Control (NOC)**

Identify/participate in behaviors to reduce risk of infection.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Infection Control (NIC)** | |
| **Independent** | |
| Assess patient knowledge and ability to maintain opportunistic infection prophylactic regimen. | Multiple medication regimen is difficult to maintain over a long period of time. Patients may adjust medication regimen based on side effects experienced, contributing to inadequate prophylaxis, active disease, and resistance. |
| Wash hands before and after all care contacts. Instruct patient/SO to wash hands as indicated. | Reduces risk of cross-contamination. |
| Provide a clean, well-ventilated environment. Screen visitors/staff for signs of infection and maintain isolation precautions as indicated. | Reduces number of pathogens presented to the immune system and reduces possibility of patient contracting a nosocomial infection. |
| Discuss extent and rationale for isolation precautions and maintenance of personal hygiene. | Promotes cooperation with regimen and may lessen feelings of isolation. |
| Monitor vital signs, including temperature. | Provides information for baseline data; frequent temperature elevations/onset of new fever indicates that the body is responding to a new infectious process or that medications are not effectively controlling noncurable infections. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Infection Control (NIC)** | |
| **Independent** | |
| Assess respiratory rate/depth; note dry spasmodic cough on deep inspiration, changes in characteristics of sputum, and presence of wheezes/rhonchi. Initiate respiratory isolation when etiology of productive cough is unknown. | Respiratory congestion/distress may indicate developing PCP (the most common opportunistic disease); however, TB is on the rise and other fungal, viral, and bacterial infections may occur that compromise the respiratory system. *Note:* CMV and PCP can reside together in the lungs and, if treatment is not effective for PCP, the addition of CMV therapy may be effective. |
| Investigate reports of headache, stiff neck, altered vision. Note changes in mentation and behavior. Monitor for nuchal rigidity/seizure activity. | Neurological abnormalities are common and may be related to HIV or secondary infections. Symptoms may vary from subtle changes in mood/sensorium (personality changes or depression) to hallucinations, memory loss, severe dementias, seizures, and loss of vision. CNS infections (encephalitis is the most common) may be caused by protozoal and helminthic organisms or fungus. |
| Examine skin/oral mucous membranes for white patches or lesions. (Refer to ND: Skin Integrity, impaired, actual and/or risk for, and ND: Oral Mucous Membrane, impaired.) | Oral candidiasis, KS, herpes, CMV, and cryptococcosis are common opportunistic diseases affecting the cutaneous membranes. |
| Clean patient's nails frequently. File, rather than cut, and avoid trimming cuticles. | Reduces risk of transmission of pathogens through breaks in skin. *Note:* Fungal infections along the nail plate are common. |
| Monitor reports of heartburn, dysphagia, retrosternal pain on swallowing, increased abdominal cramping, profuse diarrhea. | Esophagitis may occur secondary to oral candidiasis, CMV, or herpes. Cryptosporidiosis is a parasitic infection responsible for watery diarrhea (often more than 15L/day). |
| Inspect wounds/site of invasive devices, noting signs of local inflammation/infection. | Early identification/treatment of secondary infection may prevent sepsis. |
| Wear gloves and gowns during direct contact with secretions/excretions or any time there is a break in skin of caregiver's hands. Wear mask and protective eyewear to protect nose, mouth, and eyes from secretions during procedures (e.g., suctioning) or when splattering of blood may occur. | Use of masks, gowns, and gloves is required by Occupational Safety and Health Administration (OSHA, 1992) for direct contact with body fluids, e.g., sputum, blood/blood products, semen, vaginal secretions. |
| Dispose of needles/sharps in rigid, puncture-resistant containers. | Prevents accidental inoculation of caregivers. Use of needle cutters and recapping is not to be practiced. *Note:* Accidental needlesticks should be reported immediately, with follow-up evaluations done per protocol. |
| Label blood bags, body fluid containers, soiled dressings/ linens, and package appropriately for disposal per isolation protocol. | Prevents cross-contamination and alerts appropriate personnel/departments to exercise specific hazardous materials procedures. |
| Clean up spills of body fluids/blood with bleach solution (1:10); add bleach to laundry. | Kills HIV and controls other microorganisms on surfaces. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Infection Control (NIC)** | |
| **Collaborative** | |
| Monitor laboratory studies, e.g.: | |
| CBC/differential; | Shifts in the differential and changes in WBC count indicate infectious process. Low WBC count or other changes in blood count may be related to treatments/medications. |
| Culture/sensitivity studies of lesions, blood, urine, and sputum. | May be done to diagnose complications and/or monitor effectiveness of medications. |
| Administer medications as indicated: | |
| Antiretrovirals, e.g.: | The antiretroviral agents approved by the FDA are aimed at blocking replication of the HIV virus at some level. The drugs are generally given in groups of three because the multidrug regimen is more effective in reducing the viral load. Individual considerations are necessary when initiating, changing, interrupting or stopping treatment, or using salvage therapies (i.e., dropping T-cell counts necessitate changes to the failing regimen). *Note:* Studies reveal an increasing frequency of drug-resistant strains of HIV being transmitted to others. |
| Nucleoside reverse transcriptase inhibitors (NRTIs): zidovudine/ZDV (AZT, Retrovir), didanosine/ddI (Videx), zalcitabine/ddC (Hivid), stavudine/d4T (Zerit), lamivudine/3TC (Epivir); | In the past, zidovudine was given alone and as a first-line treatment. The drug is now usually given in a three-drug treatment regimen. (Zidovudine has been found to be safe in preventing perinatal HIV infection so it is an option for the pregnant patient.) *Note:* A new drug, Trizivir, combines Epivir, Retrovir, and Ziagen into one tablet that is taken twice daily. |
| Protease inhibitors, e.g., indinavir (Crixivan), nelfinavir (Viracept), ritonavir (Norvir), saquinavir (Fortovase, Invirase); | When combined with NRTIs, protease inhibitors effectively control the HIV-RNA viral load by blocking viral replication at two different target sites in the replication process. Immune function is maintained with early intervention, or improved when initiated later. |
| Nonnucleoside reverse transcriptase inhibitors (NNRTIs), e.g.: delavirdine (Rescriptor), nevirapine (Viramune), efavirenz (Sustiva); | Inhibit viral replication by a different mechanism than NRTIs. Using them alone seems to encourage drug resistance, so they are used in combination. |
| Anti-infectives/prophylaxis, e.g., trimethoprim-sulfamethoxazole/TMP/SMX (Bactrim, Septra), nystatin (Mycostatin), ketoconazole (Nizoral), pentamidine (Pentam, NebuPent), azithromycin (Zithromax), clarithromycin (Biaxin), rifabutin (Mycobutin), ganciclovir (Cytovene), foscarnet (Foscavir). | Managing opportunistic infections now includes prophylaxis to combat illnesses associated with them. For example, TMP/SMX is given to prevent PCP (pneumonia); Biaxin and Zithromax are recommended for prevention of MAC. Cytovene is used to prevent blindness/life-threatening dissemination of CMV. Foscavir can also be used to prevent CMV progression, but should be used with caution because it may cause renal toxicity. |
| Refer to/encourage cooperation with local epidemiology agency/public health. | Legal requirement. Accurate information facilitates tracking disease spread and groups affected. |

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**NURSING DIAGNOSIS: Fluid Volume, risk for deficient**

**Risk factors may include**

Excessive losses: copious diarrhea, profuse sweating, vomiting
Hypermetabolic state, fever
Restricted intake: nausea, anorexia; lethargy

**Possibly evidenced by**

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

**Desired outcomes/evaluation criteria—patient will:**

**Hydration (NOC)**

Maintain hydration as evidenced by moist mucous membranes, good skin turgor, stable vital signs, individually adequate urinary output.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Fluid Management (NIC)** | |
| **Independent** | |
| Monitor vital signs, including CVP if available. Note hypotension, including postural changes. | Indicators of circulating fluid volume. |
| Note temperature elevation and duration of febrile episode. Administer tepid sponge baths as indicated. Keep clothing and linens dry. Maintain comfortable environmental temperature. | Fever is one of the most frequent symptoms experienced by patients with HIV infections (97%). Increased metabolic demands and associated excessive diaphoresis result in increased insensible fluid losses and dehydration. |
| Assess skin turgor, mucous membranes, and thirst. | Indirect indicators of fluid status. |
| Measure urinary output and specific gravity. Measure/estimate amount of diarrheal loss. Note insensible losses. | Increased specific gravity/decreasing urinary output reflects altered renal perfusion/circulating volume. *Note:* Monitoring fluid balance is difficult in the presence of excessive GI/insensible losses. |
| Weigh as indicated. | Although weight loss may reflect muscle wasting, sudden fluctuations reflect state of hydration. Fluid losses associated with diarrhea can quickly create a crisis and become life-threatening. |
| Monitor oral intake and encourage fluids of at least 2500 mL/day. | Maintains fluid balance, reduces thirst, and keeps mucous membranes moist. |
| Make fluids easily accessible to patient; use fluids that are tolerable to patient and that replace needed electrolytes, e.g., Gatorade, broth. | Enhances intake. Certain fluids may be too painful to consume (e.g., acidic juices) because of mouth lesions. |
| Eliminate foods potentiating diarrhea, e.g., spicy/high-fat foods, nuts, cabbage, milk products. Provide lactose-free supplements/products (Resource, Advera). Adjust rate/concentration of tube feedings if indicated. | May help reduce diarrhea. Use of lactose-free products helps control diarrhea in the lactose-intolerant patient. |

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Fluid Management (NIC)** | |
| **Independent** | |
| Encourage use of live culture yogurt or OTC *Lactobacillus acidophilus* (lactaid). | Antibiotic therapies disrupt normal bowel flora balance, leading to diarrhea. *Note:* Must be taken 2 hr before or after antibiotic to prevent inactivation of live culture. |
| **Collaborative** | |
| Administer fluids/electrolytes via feeding tube/IV, as appropriate. | May be necessary to support/augment circulating volume, especially if oral intake is inadequate, nausea/vomiting persists. |
| Monitor laboratory studies as indicated, e.g.: | |
| Serum/urine electrolytes; | Alerts to possible electrolyte disturbances and determines replacement needs. |
| BUN/Cr; | Evaluates renal perfusion/function. |
| Stool specimen collection. | Bowel flora changes can occur with multiple or single antibiotic therapy. |
| Administer medications as indicated: | |
| Antiemetics, e.g., prochlorperazine maleate (Compazine), trimethobenzamide (Tigan), metoclopramide (Reglan); | Reduces incidence of vomiting to reduce further loss of fluids/electrolytes. |
| Antidiarrheals, e.g., diphenoxylate (Lomotil), loperamide (Imodium), paregoric; or antispasmodics, e.g., mepenzolate bromide (Cantil); | Decreases the amount and fluidity of stool; may reduce intestinal spasm and peristalsis. *Note:* Antibiotics may also be used to treat diarrhea if caused by infection. |
| Antipyretics, e.g., acetaminophen (Tylenol). | Helps reduce fever and hypermetabolic response, decreasing insensible losses. *Note:* Studies caution that acetaminophen (Tylenol) toxicity can occur more frequently in the patient with AIDS, so it needs to be used with caution. |
| Maintain hypothermia blanket if used. | May be necessary when other measures fail to reduce excessive fever/insensible fluid losses. |

**NURSING DIAGNOSIS: Breathing Pattern, ineffective/Gas Exchange, risk for impaired**

**Risk factors may include**

Muscular impairment (wasting of respiratory musculature), decreased energy/fatigue, decreased lung expansion
Retained secretions (tracheobronchial obstruction), infectious/inflammatory process; pain
Ventilation perfusion imbalance (PCP/other pneumonias, anemia)

**Possibly evidenced by**

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

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Respiratory Status: Ventilation (NOC)**

Maintain effective respiratory pattern.
Experience no dyspnea/cyanosis, with breath sounds and chest x-ray clear/improving and ABGs within patient's normal range.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Respiratory Monitoring (NIC)** | |
| **Independent** | |
| Auscultate breath sounds, noting areas of decreased/absent ventilation and presence of adventitious sounds, e.g., crackles, wheezes, rhonchi. | Suggests developing pulmonary complications/infection, e.g., atelectasis/pneumonia. *Note:* PCP is often advanced before changes in breath sounds occur. |
| Note rate/depth of respiration, use of accessory muscles, increased work of breathing, and presence of dyspnea, anxiety, cyanosis. | Tachypnea, cyanosis, restlessness, and increased work of breathing reflect respiratory distress and need for increased surveillance/medical intervention. |
| Assess changes in level of consciousness. | Hypoxemia can result in changes ranging from anxiety and confusion to unresponsiveness. |
| Investigate reports of chest pain. | Pleuritic chest pain may reflect nonspecific pneumonitis or pleural effusions associated with malignancies. |
| **Ventilation Assistance (NIC)** | |
| Elevate head of bed. Have patient turn, cough, deep-breathe, as indicated. | Promotes optimal pulmonary function and reduces incidence of aspiration or infection due to atelectasis. |
| Suction airway as indicated, using sterile technique and observing safety precautions, e.g., mask, protective eyewear. | Assists in clearing the ventilatory passages, thereby facilitating gas exchange and preventing respiratory complications. |
| Allow adequate rest periods between care activities. Maintain a quiet environment. | Reduces oxygen consumption. |
| **Collaborative** | |
| Monitor/graph serial ABGs or pulse oximetry. | Indicators of respiratory status, treatment needs/effectiveness. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Ventilation Assistance (NIC)** | |
| **Collaborative** | |
| Review serial chest x-rays. | Presence of diffuse infiltrates may suggest pneumonia, whereas areas of congestion/consolidation may reflect other pulmonary complications, e.g., atelectasis or KS lesions. |
| Assist with/instruct in use of incentive spirometer. Provide chest physiotherapy, e.g., percussion, vibration, and postural drainage. | Encourages proper breathing technique and improves lung expansion. Loosens secretions, dislodges mucous plugs to promote airway clearance. *Note:* In the event of multiple skin lesions, chest physiotherapy may be discontinued. |
| Provide humidified supplemental $O_2$ via appropriate means, e.g., cannula, mask, intubation/mechanical ventilation. | Maintains effective ventilation/oxygenation to prevent/correct respiratory crisis. |
| Administer medications as indicated: | Choice of therapy depends on individual situation/infecting organism(s). |
| Antimicrobials, e.g.: trimethoprim-sulfamethoxazole (Bactrim, Septra), pentamidine isethionate (Pentam); | Although Bactrim (TMP/SMX) is the drug of choice for PCP, Pentam can be used in combination or alone when treatment with Bactrim is unsuccessful or contraindicated. *Note:* Bactrim is also used prophylactically. |
| Foscarnet (Foscavir), ganciclovir (Cytovene); | Effective for treatment of pulmonary CMV infections. *Note:* CMV often coexists with PCP. |
| Clarithromycin (Biaxin), azithromycin (Zithromax), rifabutin (Mycobutin); | First-line therapy for treatment of MAC, a common bacterial infection that frequently disseminates to other organ systems. |
| Bronchodilators, expectorants, cough depressants. | May be needed to improve/maintain airway patency or help clear secretions. |
| Prepare/assist with procedures as indicated, e.g., bronchoscopy. | May be required to clear mucous plugs, obtain specimens for diagnosis (biopsies/lavage). |

**NURSING DIAGNOSIS: Injury, risk for (hemorrhage)**

**Risk factors may include**

Abnormal blood profile: decreased vitamin K absorption, alteration in hepatic function, presence of autoimmune antiplatelet antibodies, malignancies (KS), and/or circulating endotoxins (sepsis)

**Possibly evidenced by**

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

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Risk Control (NOC)**

Display homeostasis as evidenced by absence of bleeding.

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Bleeding Reduction (NIC)** | |
| **Independent** | |
| Avoid injections, rectal temperatures/rectal tubes. Administer rectal suppositories with caution. | Protects patient from procedure-related causes of bleeding; i.e., insertion of thermometers, rectal tubes can damage or tear rectal mucosa. *Note:* Some medications need to be given via suppository, so caution is advised. |
| Maintain a safe environment; e.g., keep all necessary objects and call bell within patient's reach and keep bed in low position. | Reduces accidental injury, which could result in bleeding. |
| Maintain bedrest/chair rest when platelets are below 10,000 or as individually appropriate. Assess medication regimen. | Reduces possibility of injury, although activity needs to be maintained. May need to discontinue or reduce dosage of a drug. *Note:* Patient can have a surprisingly low platelet count without bleeding. |
| Hematest body fluids, e.g., urine, stool, vomitus, for occult blood. | Prompt detection of bleeding/initiation of therapy may prevent critical hemorrhage. |
| Observe for/report epistaxis, hemoptysis, hematuria, nonmenstrual vaginal bleeding, or oozing from lesions/body orifices/IV insertion sites. | Spontaneous bleeding may indicate development of DIC or immune thrombocytopenia, necessitating further evaluation and prompt intervention. |
| Monitor for changes in vital signs and skin color, e.g., BP, pulse, respirations, skin pallor/discoloration. | Presence of bleeding/hemorrhage may lead to circulatory failure/shock. |
| Evaluate change in level of consciousness. | May reflect cerebral bleeding. |
| **Collaborative** | |
| Review laboratory studies, e.g., PT, aPTT, clotting time, platelets, Hb/Hct. | Detects alterations in clotting capability; identifies therapy needs. *Note:* Many individuals (up to 80%) display platelet count below 50,000 and may be asymptomatic, necessitating regular monitoring. |
| Administer blood products as indicated. | Transfusions may be required in the event of persistent/massive spontaneous bleeding. |
| Avoid use of aspirin products/NSAIDs, especially in presence of gastric lesions. | These medications reduce platelet aggregation, impairing/prolonging the coagulation process, and may cause further gastric irritation, increasing risk of bleeding. |

**NURSING DIAGNOSIS: Nutrition: imbalanced, less than body requirements**

**May be related to**

Inability or altered ability to ingest, digest and/or metabolize nutrients: nausea/vomiting, hyperactive gag reflex, intestinal disturbances, GI tract infections, fatigue

Increased metabolic rate/nutritional needs (fever/infection)

**Possibly evidenced by**

Weight loss, decreased subcutaneous fat/muscle mass (wasting)

Lack of interest in food, aversion to eating, altered taste sensation

Abdominal cramping, hyperactive bowel sounds, diarrhea

Sore, inflamed buccal cavity

Abnormal laboratory results: vitamin/mineral and protein deficiencies, electrolyte imbalances

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Nutritional Status (NOC)**

Maintain weight or display weight gain toward desired goal.

Demonstrate positive nitrogen balance, be free of signs of malnutrition, and display improved energy level.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Nutritional Monitoring (NIC)** | |
| **Independent** | |
| Assess ability to chew, taste, and swallow. | Lesions of the mouth, throat, and esophagus (often caused by candidiasis, herpes simplex, hairy leukoplakia, KS and other cancers) and metallic or other taste changes caused by medications may cause dysphagia, limiting patient's ability to ingest food and reducing desire to eat. |
| Auscultate bowel sounds. | Hypermotility of intestinal tract is common and is associated with vomiting and diarrhea, which may affect choice of diet/route. *Note:* Lactose intolerance and malabsorption (e.g., with CMV, MAC, cryptosporidiosis) contribute to diarrhea and may necessitate change in diet/supplemental formula (e.g., Advera, Resource). |
| Weigh as indicated. Evaluate weight in terms of premorbid weight. Compare serial weights and anthropometric measurements. | Indicator of nutritional needs/adequacy of intake. *Note:* Because of immune suppression, some blood tests normally used for testing nutritional status are not useful. |
| Note drug side effects. | Prophylactic and therapeutic medications can have side effects affecting nutrition, e.g., ZDV (altered taste, nausea/vomiting), Bactrim (anorexia, glucose intolerance, glossitis), Pentam (altered taste and smell, nausea/vomiting, glucose intolerance), protease inhibitors (elevated lipids and blood sugar secondary to insulin resistance). |

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Nutritional Therapy (NIC)** | |
| **Independent** | |
| Plan diet with patient/SO, suggesting foods from home if appropriate. Provide small, frequent meals/snacks of nutritionally dense foods and nonacidic foods and beverages, with choice of foods palatable to patient. Encourage high-calorie/nutritious foods, some of which may be considered appetite stimulants. Note time of day when appetite is best, and try to serve larger meal at that time. | Including patient in planning gives sense of control of environment and may enhance intake. Fulfilling cravings for noninstitutional food may also improve intake. *Note:* In this population, foods with a higher fat content may be recommended as tolerated to enhance taste and oral intake. |
| Limit food(s) that induce nausea/vomiting or are poorly tolerated by patient because of mouth sores/dysphagia. Avoid serving very hot liquids/foods. Serve foods that are easy to swallow, e.g., eggs, ice cream, cooked vegetables. | Pain in the mouth or fear of irritating oral lesions may cause patient to be reluctant to eat. These measures may be helpful in increasing food intake. |
| Schedule medications between meals (if tolerated) and limit fluid intake with meals, unless fluid has nutritional value. | Gastric fullness diminishes appetite and food intake. |
| Encourage as much physical activity as possible. | May improve appetite and general feelings of well-being. |
| Provide frequent mouth care, observing secretion precautions. Avoid alcohol-containing mouthwashes. | Reduces discomfort associated with nausea/vomiting, oral lesions, mucosal dryness, and halitosis. Clean mouth may enhance appetite. |
| Provide rest period before meals. Avoid stressful procedures close to mealtime. | Minimizes fatigue; increases energy available for work of eating. |
| Remove existing noxious environmental stimuli or conditions that aggravate gag reflex. | Reduces stimulus of the vomiting center in the medulla. |
| Encourage patient to sit up for meals. | Facilitates swallowing and reduces risk of aspiration. |
| Record ongoing caloric intake. | Identifies need for supplements or alternative feeding methods. |
| **Collaborative** | |
| Review laboratory studies, e.g., BUN, glucose, liver function studies, electrolytes, protein, and albumin. | Indicates nutritional status and organ function, and identifies replacement needs. *Note:* Nutritional tests can be altered because of disease processes and response to some medications/therapies. (Multiple medications are metabolized by the liver and have potential for synergistic damage.) |
| Maintain NPO status when appropriate. | May be needed to reduce nausea/vomiting. |

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Nutritional Therapy (NIC)** | |
| **Collaborative** | |
| Insert/maintain nasogastric (NG) tube as indicated. | May be needed to reduce vomiting or to administer tube feedings. *Note:* Esophageal irritation from existing infection (*Candida,* herpes, or KS) may provide site for secondary infections/trauma; therefore, NG tube should be used with caution. |
| Consult with dietitian/nutritional support team. | Provides for diet based on individual needs/appropriate route. |
| Administer enteral/parenteral feedings as indicated. | Enteral feedings are preferred because they cost less and carry less risk of exacerbating endocrine dysfunction than TPN. However, TPN may be required when oral/enteral feedings are not tolerated. TPN is reserved for those whose gut cannot absorb even an elemental formula (such as Vivonex) or those with severe refractory diarrhea. |
| Administer medications as indicated: | |
| Antiemetics, e.g., prochlorperazine (Compazine), promethazine (Phenergan), trimethobenzamide (Tigan); | Reduces incidence of nausea/vomiting, possibly enhancing oral intake. |
| Sucralfate (Carafate) suspension; mixture of Maalox, diphenhydramine (Benadryl), and lidocaine (Xylocaine); | Given with meals (swish and hold in mouth) to relieve mouth pain, enhance intake. Mixture may be swallowed for presence of pharyngeal/esophageal lesions. |
| Vitamin supplements; | Corrects vitamin deficiencies resulting from decreased food intake and/or disorders of digestion and absorption in the GI system. *Note:* Avoid megadoses; suggested supplemental level is two times the recommended daily allowance (RDA). |
| Appetite stimulants, e.g., dronabinol (Marinol), megestrol (Megace), oxandrolone (Oxandrin); | Marinol (an antiemetic) and Megace (an antineoplastic) act as appetite stimulants in the presence of AIDS. Oxandrin is currently being studied in clinical trials to boost appetite and improve muscle mass and strength. |
| TNF-alpha inhibitors, e.g., thalidomide; | Reduces elevated levels of tumor necrosis factor (TNF) present in chronic illness contributing to wasting/cachexia. Studies reveal a mean weight gain of 10% over 28 wk of therapy. |
| Antidiarrheals, e.g., diphenoxylate (Lomotil), loperamide (Imodium), octreotide (Sandostatin); | Inhibit GI motility subsequently decreasing diarrhea. Imodium or Sandostatin areeffective treatments for secretory diarrhea (secretion of water and electrolytes by intestinal epithelium). |
| Antibiotic therapy, e.g., ketoconazole (Nizoral), fluconazole (Diflucan). | May be given to treat/prevent infections involving the GI tract. |

**NURSING DIAGNOSIS: Pain, acute/chronic**

**May be related to**

Tissue inflammation/destruction: infections, internal/external cutaneous lesions, rectal excoriation, malignancies, necrosis
Peripheral neuropathies, myalgias, and arthralgias
Abdominal cramping

**Possibly evidenced by**

Reports of pain
Self-focusing; narrowed focus, guarding behaviors
Alteration in muscle tone; muscle cramping, ataxia, muscle weakness, paresthesias, paralysis
Autonomic responses; restlessness

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Pain Level (NOC)**

Report pain relieved/controlled.
Demonstrate relaxed posture/facial expression.
Be able to sleep/rest appropriately.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Pain Management (NIC)** | |
| **Independent** | |
| Assess pain reports, noting location, intensity (0–10 scale), frequency, and time of onset. Note nonverbal cues, e.g., restlessness, tachycardia, grimacing. | Indicates need for/effectiveness of interventions and may signal development/resolution of complications. *Note:* Chronic pain does not produce autonomic changes; however, acute and chronic pain can coexist. |
| Instruct/encourage patient to report pain as it develops rather then waiting until level is severe. | Efficacy of comfort measures and medications is improved with timely intervention. |
| Encourage verbalization of feelings. | Can reduce anxiety and fear and thereby reduce perception of intensity of pain. |
| Provide diversional activities, e.g., reading, visiting, radio/television. | Refocuses attention; may enhance coping abilities. |
| Perform palliative measures, e.g., repositioning, massage, ROM of affected joints. | Promotes relaxation/decreases muscle tension. |
| Instruct patient in/encourage use of visualization, guided imagery, progressive relaxation, deep-breathing techniques, meditation, and mindfulness. | Promotes relaxation and feeling of well-being. May decrease the need for narcotic analgesics (CNS depressants) when a neuro/motor degenerative process is already involved. May not be successful in presence of dementia, even when dementia is minor. *Note:* Mindfulness is the skill of staying in the here and now. |
| Provide oral care. (Refer to ND: Oral Mucous Membrane, impaired.) | Oral ulcerations/lesions may cause severe discomfort. |
| Apply warm/moist packs to pentamidine injection/IV sites for 20 min after administration. | These injections are known to cause pain and sterile abscesses. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Pain Management (NIC)** | |
| **Collaborative** | |
| Administer analgesics/antipyretics, narcotic analgesics. Use patient-controlled analgesia (PCA) or provide around-the-clock analgesia with rescue doses prn. | Provides relief of pain/discomfort; reduces fever. PCA or around-the-clock medication keeps the blood level of analgesia stable, preventing cyclic undermedication or overmedication. *Note:* Drugs such as Ativan may be used to potentiate effects of analgesics. |

**NURSING DIAGNOSIS: Skin Integrity, impaired, actual and/or risk for**

**Risk factors may include**

Decreased level of activity/immobility, altered sensation, skeletal prominence, changes in skin turgor

Malnutrition, altered metabolic state

**May be related to (actual)**

Immunologic deficit: AIDS-related dermatitis; viral, bacterial, and fungal infections (e.g., herpes, *Pseudomonas, Candida*); opportunistic disease processes (e.g., KS)

Excretions/secretions

**Possibly evidenced by**

Skin lesions; ulcerations; decubitus ulcer formation

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Risk Control (NOC)**

Be free of/display improvement in wound/lesion healing.

**Tissue Integrity: Skin & Mucous Membranes (NOC)**

Demonstrate behaviors/techniques to prevent skin breakdown/promote healing.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Skin Surveillance (NIC)** | |
| **Independent** | |
| Assess skin daily. Note color, turgor, circulation, and sensation. Describe/measure lesions and observe changes. | Establishes comparative baseline providing opportunity for timely intervention. |
| Maintain/instruct in good skin hygiene, e.g., wash thoroughly, pat dry carefully, and gently massage with lotion or appropriate cream. | Maintaining clean, dry skin provides a barrier to infection. Patting skin dry instead of rubbing reduces risk of dermal trauma to dry/fragile skin. Massaging increases circulation to the skin and promotes comfort. *Note:* Isolation precautions are required when extensive or open cutaneous lesions are present. |
| Reposition frequently. Use turn sheet as needed. Encourage periodic weight shifts. Protect bony prominences with pillows, heel/elbow pads, sheepskin. | Reduces stress on pressure points, improves blood flow to tissues, and promotes healing. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Skin Surveillance (NIC)** | |
| **Independent** | |
| Maintain clean, dry, wrinkle-free linen, preferably soft cotton fabric. | Skin friction caused by wet/wrinkled or rough sheets leads to irritation of fragile skin and increases risk for infection. |
| Encourage ambulation/out of bed as tolerated. | Decreases pressure on skin from prolonged bedrest. |
| Cleanse perianal area by removing stool with water and mineral oil or commercial product. Avoid use of toilet paper if vesicles are present. Apply protective creams, e.g., zinc oxide, A & D ointment. | Prevents maceration caused by diarrhea and keeps perianal lesions dry. *Note:* Use of toilet paper may abrade lesions. |
| File nails regularly. | Long/rough nails increase risk of dermal damage. |
| Cover open pressure ulcers with sterile dressings or protective barrier, e.g., Tegaderm, DuoDerm, as indicated. | May reduce bacterial contamination, promote healing. |
| Collaborative | |
| Provide foam/flotation/alternate pressure mattress or bed. | Reduces pressure on skin, tissue, and lesions, decreasing tissue ischemia. |
| Obtain cultures of open skin lesions. | Identifies pathogens and appropriate treatment choices. |
| Apply/administer topical/systemic drugs as indicated. | Used in treatment of skin lesions. Use of agents such as Prederm spray can stimulate circulation, enhancing healing process. *Note:* When multidose ointments are used, care must be taken to avoid cross-contamination. |
| Cover ulcerated KS lesions with wet-to-wet dressings or antibiotic ointment and nonstick dressing (e.g., Telfa), as indicated. | Protects ulcerated areas from contamination and promotes healing. |
| Refer to physical therapy for regular exercise/activity program. | Promotes improved muscle tone and skin health. |

**NURSING DIAGNOSIS: Oral Mucous Membrane, impaired**

**May be related to**

Immunologic deficit and presence of lesion-causing pathogens, e.g., *Candida,* herpes, KS
Dehydration, malnutrition
Ineffective oral hygiene
Side effects of drugs, chemotherapy

**Possibly evidenced by**

Open ulcerated lesions, vesicles
Oral pain/discomfort
Stomatitis; leukoplakia, gingivitis, carious teeth

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Oral Health (NOC)**

Display intact mucous membranes, which are pink, moist, and free of inflammation/ulcerations.

**Risk Control (NOC)**

Demonstrate techniques to restore/maintain integrity of oral mucosa.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Oral Health Restoration (NIC)** | |
| **Independent** | |
| Assess mucous membranes/document all oral lesions. Note reports of pain, swelling, difficulty with chewing/swallowing. | Edema, open lesions, and crusting on oral mucous membranes and throat may cause pain and difficulty with chewing/swallowing. |
| Provide oral care daily and after food intake, using soft toothbrush, nonabrasive toothpaste, nonalcohol mouthwash, floss, and lip moisturizer. | Alleviates discomfort, prevents acid formation associated with retained food particles, and promotes feeling of well-being. |
| Rinse oral mucosal lesions with saline/dilute hydrogen peroxide or baking soda solutions. | Reduces spread of lesions and encrustations from candidiasis, and promotes comfort. |
| Suggest use of sugarless gum/candy or commercial salivary substitute. | Stimulates flow of saliva to neutralize acids and protect mucous membranes. |
| Plan diet to avoid salty, spicy, abrasive, and acidic foods or beverages. Check for temperature tolerance of foods. Offer cool/cold smooth foods. | Abrasive foods may open healing lesions. Open lesions are painful and aggravated by salt, spice, acidic foods/beverages. Extreme cold or heat can cause pain to sensitive mucous membranes. |
| Encourage oral intake of at least 2500 mL/day. | Maintains hydration; prevents drying of oral cavity. |
| Encourage patient to refrain from smoking. | Smoke is drying and irritating to mucous membranes. |
| **Collaborative** | |
| Obtain culture specimens of lesions. | Reveals causative agents and identifies appropriate therapies. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|

| Oral Health Restoration (NIC) | |
|---|---|
| **Collaborative** | |
| Administer medications, as indicated, e.g., nystatin (Mycostatin), ketoconazole (Nizoral). | Specific drug choice depends on particular infecting organism(s), e.g., *Candida.* |
| TNF-alpha inhibitor, e.g., thalidomide. | Effective in treatment of oral lesions due to recurrent stomatitis. |
| Refer for dental consultation, if appropriate. | May require additional therapy to prevent dental losses. |

**NURSING DIAGNOSIS: Fatigue**

**May be related to**

Decreased metabolic energy production, increased energy requirements (hypermetabolic state)
Overwhelming psychological/emotional demands
Altered body chemistry: side effects of medication, 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, with assistance as necessary.
Participate in desired activities at level of ability.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Energy Management (NIC)** | |
| **Independent** | |
| Assess sleep patterns and note changes in thought processes/behaviors. | Multiple factors can aggravate fatigue, including sleep deprivation, emotional distress, side effects of drugs/chemotherapies, and developing CNS disease. |
| Recommend scheduling activities for periods when patient has most energy. Plan care to allow for rest periods. Involve patient/SO in schedule planning. | Planning allows patient to be active during times when energy level is higher, which may restore a feeling of well-being and a sense of control. Frequent rest periods are needed to restore/conserve energy. |
| Establish realistic activity goals with patient. | Provides for a sense of control and feelings of accomplishment. Prevents discouragement from fatigue of overactivity. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Energy Management (NIC)** | |

| | |
|---|---|
| **Independent** | |
| Encourage patient to do whatever possible, e.g., self-care, sit in chair, short walks. Increase activity level as indicated. | May conserve strength, increase stamina, and enable patient to become more active without undue fatigue and discouragement. |
| Identify energy conservation techniques, e.g., sitting, breaking ADLs into manageable segments. Keep travelways clear of furniture. Provide/assist with ambulation/self-care needs as appropriate. | Weakness may make ADLs almost impossible for patient to complete. Protects patient from injury during activities. |
| Monitor physiological response to activity, e.g., changes in BP, respiratory rate, or heart rate. | Tolerance varies greatly, depending on the stage of the disease process, nutrition state, fluid balance, and number/type of opportunistic diseases that patient has been subject to. |
| Encourage nutritional intake. (Refer to ND: Nutrition: imbalanced, less than body requirements.) | Adequate intake/utilization of nutrients is necessary to meet increased energy needs for activity. *Note:* Continuous stimulation of the immune system by HIV infection contributes to a hypermetabolic state. |
| **Collaborative** | |
| Refer to physical/occupational therapy. | Programmed daily exercises and activities help patient maintain/increase strength and muscle tone, enhance sense of well-being. |
| Refer to community resources, e.g., grocery delivery/ Meals on Wheels, house cleaning/home maintenance services, home care agency. | Provides assistance in areas of individual need as ability to care for self becomes more difficult. |
| Provide supplemental $O_2$ as indicated. | Presence of anemia/hypoxemia reduces oxygen available for cellular uptake and contributes to fatigue. |

**NURSING DIAGNOSIS: Thought Processes, disturbed**

**May be related to**

Hypoxemia, CNS infection by HIV, brain malignancies, and/or disseminated systemic opportunistic infection, cerebrovascular accident (CVA)/hemorrhage; vasculitis

Alteration of drug metabolism/excretion, accumulation of toxic elements; renal failure, severe electrolyte imbalance, hepatic insufficiency

**Possibly evidenced by**

Altered attention span; distractibility

Memory deficit

Disorientation; cognitive dissonance; delusional thinking

Sleep disturbances

Impaired ability to make decisions/problem-solve; inability to follow complex commands/mental tasks, loss of impulse control

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Cognitive Ability (NOC)**

Maintain usual reality orientation and optimal cognitive functioning.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Cognitive Stimulation (NIC)** | |
| **Independent** | |
| Assess mental and neurological status using appropriate tools. | Establishes functional level at time of admission and provides baseline for future comparison. |
| Consider effects of emotional distress, e.g., anxiety, grief, anger. | May contribute to reduced alertness, confusion, withdrawal, and hypoactivity, requiring further evaluation and intervention. |
| Monitor medication regimen and usage. | Actions and interactions of various medications, prolonged drug half-life/altered excretion rates result in cumulative effects, potentiating risk of toxic reactions. Some drugs may have adverse side effects; e.g., haloperidol (Haldol) can seriously impair motor function in patients with AIDS dementia complex. |
| Investigate changes in personality, response to stimuli, orientation/level of consciousness; or development of headache, nuchal rigidity, vomiting, fever, seizure activity. | Changes may occur for numerous reasons, including development/exacerbation of opportunistic diseases/CNS infection. *Note:* Early detection and treatment of CNS infection may limit permanent impairment of cognitive ability. |
| Maintain a pleasant environment with appropriate auditory, visual, and cognitive stimuli. | Providing normal environmental stimuli can help in maintaining some sense of reality orientation. |
| Provide cues for reorientation, e.g., radio, television, calendars, clocks, room with an outside view. Use patient's name; identify yourself. Maintain consistent personnel and structured schedules as appropriate. | Frequent reorientation to place and time may be necessary, especially during fever/acute CNS involvement. Sense of continuity may reduce associated anxiety. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Cognitive Stimulation (NIC)** | |
| **Independent** | |
| Discuss use of datebooks, lists, other devices to keep track of activities. | These techniques help patient manage problems of forgetfulness. |
| Encourage family/SO to socialize and provide reorientation with current news, family events. | Familiar contacts are often helpful in maintaining reality orientation, especially if patient is hallucinating. |
| Encourage patient to do as much as possible, e.g., dress and groom daily, see friends, and so forth. | Can help maintain mental abilities for longer period. |
| Provide support for SO. Encourage discussion of concerns and fears. | Bizarre behavior/deterioration of abilities may be very frightening for SO and makes management of care/dealing with situation difficult. SO may feel a loss of control as stress, anxiety, burnout, and anticipatory grieving impair coping abilities. |
| Provide information about care on an ongoing basis. Answer questions simply and honestly. Repeat explanations as needed. | Can reduce anxiety and fear of unknown; can enhance patient's understanding and involvement/cooperation in treatment when possible. |
| **Coping Restructuring (NIC)** | |
| Reduce provocative/noxious stimuli. Maintain bedrest in quiet, darkened room if indicated. | If patient is prone to agitation, violent behavior, or seizures, reducing external stimuli may be helpful. |
| Decrease noise, especially at night. | Promotes sleep, reducing cognitive symptoms and effects of sleep deprivation. |
| Set limits on maladaptive/abusive behavior; avoid open-ended choices. | Provides sense of security/stability in an otherwise confusing situation. |
| Maintain safe environment, e.g., excess furniture out of the way, call bell within patient's reach, bed in low position/rails up; restriction of smoking (unless monitored by caregiver/SO), seizure precautions, soft restraints if indicated. | Decreases the possibility of patient injury. |
| Discuss causes/future expectations and treatment if dementia is diagnosed. Use concrete terms. | Obtaining information that ZDV has been shown to improve cognition can provide hope and control for losses. |
| **Collaborative** | |
| Assist with diagnostic studies, e.g., MRI, CT scan, spinal tap, and monitor laboratory studies as indicated, e.g., BUN/Cr, electrolytes, ABGs. | Choice of tests/studies depends on clinical manifestations and index of suspicion, because changes in mental status may reflect a wide variety of causative factors, e.g., CMV meningitis/encephalitis, drug toxicity, electrolyte imbalances, and altered organ function. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Coping Restructuring (NIC)** | |
| **Collaborative** | |
| Administer medications as indicated: | |
| Amphotericin B (Fungizone); | Antifungal useful in treatment of cryptococcosis meningitis. |
| ZDV (Retrovir) and other antiretrovirals alone or in combination; | Shown to improve neurological and mental functioning for undetermined period of time. |
| Antipsychotics, e.g., haloperidol (Haldol), and/or antianxiety agents, e.g., lorazepam (Ativan). | Cautious use may help with problems of sleeplessness, emotional lability, hallucinations, suspiciousness, and agitation. |
| Provide controlled environment/behavioral management. | Team approach may be required to protect patient when mental impairment (e.g., delusions) threatens patient safety. |
| Refer to counseling as indicated. | May help patient gain control in presence of thought disturbances or psychotic symptomatology. |

**NURSING DIAGNOSIS: Anxiety [specify level]/Fear**

**May be related to**

Threat to self-concept, threat of death, change in health/socioeconomic status, role functioning
Interpersonal transmission and contagion
Separation from support system
Fear of transmission of the disease to family/loved ones

**Possibly evidenced by**

Increased tension, apprehension, feelings of helplessness/hopelessness
Expressed concern regarding changes in life
Fear of unspecific consequences
Somatic complaints, insomnia; sympathetic stimulation, restlessness

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Anxiety [or] Fear Control (NOC)**

Verbalize awareness of feelings and healthy ways to deal with them.
Display appropriate range of feelings and lessened fear/anxiety.
Demonstrate problem-solving skills.
Use resources effectively.

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Anxiety Reduction (NIC)** | |
| **Independent** | |
| Assure patient of confidentiality within limits of situation. | Provides reassurance and opportunity for patient to problem-solve solutions to anticipated situations. |
| Maintain frequent contact with patient. Talk with and touch patient. Limit use of isolation clothing and masks. | Provides assurance that patient is not alone or rejected; conveys respect for and acceptance of the person, fostering trust. |
| Provide accurate, consistent information regarding prognosis. Avoid arguing about patient's perceptions of the situation. | Can reduce anxiety and enable patient to make decisions/choices based on realities. |
| Be alert to signs of denial/depression (e.g., withdrawal; angry, inappropriate remarks). Determine presence of suicidal ideation and assess potential on a scale of 1–10. | Patient may use defense mechanism of denial and continue to hope that diagnosis is inaccurate. Feelings of guilt and spiritual distress may cause patient to become withdrawn and believe that suicide is a viable alternative. Although patient may be too "sick" to have enough energy to implement thoughts, ideation must be taken seriously and appropriate intervention initiated. |
| 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. |
| 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. |
| Recognize and support the stage patient/family is at in the grieving process. (Refer to CP: Cancer, ND: Grieving, anticipatory.) | Choice of interventions as dictated by stage of grief, coping behaviors, e.g., anger/withdrawal, denial. |
| Explain procedures, providing opportunity for questions and honest answers. Arrange for someone to stay with patient during anxiety-producing procedures and consultations. | Accurate information allows patient to deal more effectively with the reality of the situation, thereby reducing anxiety and fear of the known. |
| Identify and encourage patient interaction with support systems. Encourage verbalization/interaction with family/SO. | Reduces feelings of isolation. If family support systems are not available, outside sources may be needed immediately, e.g., local AIDS task force. |
| Provide reliable and consistent information and support for SO. | Allows for better interpersonal interaction and reduction of anxiety and fear. |
| Include SO as indicated when major decisions are to be made. | Ensures a support system for patient, and allows SO the chance to participate in patient's life. *Note:* If patient, family, and SO are in conflict, separate care consultations and visiting times may be needed. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Anxiety Reduction (NIC)** | |
| **Independent** | |
| Discuss Advance Directives, end-of-life desires/needs. Review specific wishes and explain various options clearly. | May assist patient/SO to plan realistically for terminal stages and death. *Note:* Many individuals do not understand medical terminology/options, e.g., PEG tube for short- or long-term feeding. |
| **Collaborative** | |
| Refer to psychiatric counseling (e.g., psychiatric clinical nurse specialist, psychiatrist, social worker). | May require further assistance in dealing with diagnosis/prognosis, especially when suicidal thoughts are present. |
| Provide contact with other resources as indicated, e.g.: | |
| Spiritual advisor; | Provides opportunity for addressing spiritual concerns. |
| Hospice staff. | May help relieve anxiety regarding end-of-life care and support for patient/SO. |

**NURSING DIAGNOSIS: Social Isolation**

**May be related to**

Altered state of wellness, changes in physical appearance, alterations in mental status
Perceptions of unacceptable social or sexual behavior/values
Inadequate personal resources/support systems
Physical isolation

**Possibly evidenced by**

Expressed feeling of aloneness imposed by others, feelings of rejection
Absence of supportive SO: partners, family, acquaintances/friends

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Social Support (NOC)**

Identify supportive individual(s).
Use resources for assistance.

**Social Involvement (NOC)**

Participate in activities/programs at level of ability/desire.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Support System Enhancement (NIC)** | |
| **Independent** | |
| Ascertain patient's perception of situation. | Isolation may be partly self-imposed because patient fears rejection/reaction of others. |

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Support System Enhancement (NIC)** | |
| **Independent** | |
| Spend time talking with patient during and between care activities. Be supportive, allowing for verbalization. Treat with dignity and regard for patient's feelings. | Patient may experience physical isolation as a result of current medical status and some degree of social isolation secondary to diagnosis of AIDS. |
| Limit/avoid use of mask, gown, and gloves when possible, e.g., when talking to patient. | Reduces patient's sense of physical isolation and provides positive social contact, which may enhance self-esteem and decrease negative behaviors. |
| Identify support systems available to patient, including presence of/relationship with immediate and extended family. | When patient has assistance from SO, feelings of loneliness and rejection are diminished. *Note:* Patient may not receive usual/needed support for coping with life-threatening illness and associated grief because of fear and lack of understanding (AIDS hysteria). |
| Explain isolation precautions/procedures to patient and SO. | Gloves, gowns, mask are not routinely required with a diagnosis of AIDS except when contact with secretions/excretions is expected. Misuse of these barriers enhances feelings of emotional and physical isolation. When precautions are necessary, explanations help patient understand reasons for procedures and provide feeling of inclusion in what is happening. |
| Encourage open visitation (as able), telephone contacts, and social activities within tolerated level. | Participation with others can foster a feeling of belonging. |
| Encourage active role of contact with SO. | Helps reestablish a feeling of participation in a social relationship. May lessen likelihood of suicide attempts. |
| Develop a plan of action with patient: Look at available resources; support healthy behaviors. Help patient problem-solve solution to short-term/imposed isolation. | Having a plan promotes a sense of control over own life and gives patient something to look forward to/actions to accomplish. |
| Be alert to verbal/nonverbal cues, e.g., withdrawal, statements of despair, sense of aloneness. Ask patient if thoughts of suicide are being entertained. | Indicators of despair and suicidal ideation are often present; when these cues are acknowledged by the caregiver, patient is usually willing to talk about thoughts of suicide and sense of isolation and hopelessness. |
| **Collaborative** | |
| Refer to resources, e.g., social services counselors, and AIDS organizations/projects (local and national). | Establishes support systems; may reduce feelings of isolation. |
| Provide for placement in sheltered community when necessary. | May need more specific care when unable to be maintained at home or when SO cannot manage care. |

**NURSING DIAGNOSIS: Powerlessness**

**May be related to**

Confirmed diagnosis of a potentially terminal disease, incomplete grieving process
Social ramifications of AIDS; alteration in body image/desired lifestyle; advancing CNS involvement

**Possibly evidenced by**

Feelings of loss of control over own life
Depression over physical deterioration that occurs despite patient compliance with regimen
Anger, apathy, withdrawal, passivity
Dependence on others for care/decision making, resulting in resentment, anger, guilt

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Health Beliefs: Perceived Control (NOC)**

Acknowledge feelings and healthy ways to deal with them.
Verbalize some sense of control over present situation.
Make choices related to care and be involved in self-care.

| ACTIONS/INTERVENTIONS | RATIONALE |
| --- | --- |
| **Self-Responsibility Facilitation (NIC)** | |
| **Independent** | |
| Identify factors that contribute to patient's feelings of powerlessness, e.g., diagnosis of a terminal illness, lack of support systems, lack of knowledge about present situation. | Patients with AIDS are usually aware of the current literature and prognosis unless newly diagnosed. Powerlessness is most prevalent in a patient newly diagnosed with HIV and when dying with AIDS. Fear of AIDS (by the general population and the patient's family/SO) is the most profound cause of patient's isolation. For some homosexual patients, this may be the first time that the family has been made aware that patient lives an alternative lifestyle. |
| Assess degree of feelings of helplessness, e.g., verbal/nonverbal expressions indicating lack of control ("It won't make any difference"), flat affect, lack of communication. | Determines the status of the individual patient and allows for appropriate intervention when patient is immobilized by depressed feelings. |
| Encourage active role in planning activities, establishing realistic/attainable daily goals. Encourage patient control and responsibility as much as possible. Identify things that patient can and cannot control. | May enhance feelings of control and self-worth and sense of personal responsibility. |
| Encourage Living Will and durable medical power of attorney documents, with specific and precise instructions regarding acceptable and unacceptable procedures to prolong life. | Many factors associated with the treatments used in this debilitating and often fatal disease process place patient at the mercy of medical personnel and other unknown people who may be making decisions for and about patient without regard for patient's wishes, increasing loss of independence. |
| Discuss desires/assist with planning for funeral as appropriate. | The individual can gain a sense of completion and value to his or her life when he or she decides to be involved in planning this final ceremony. This provides an opportunity to include things that are of importance to the person. |

**NURSING DIAGNOSIS: Knowledge, deficient [Learning Need] regarding disease, prognosis, current therapies, and self-care needs**

**May be related to**

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

**Possibly evidenced by**

Questions/request for information; statement of misconception
Inaccurate follow-through of instructions, development of preventable complications

**DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:**

**Knowledge: Disease Process (NOC)**

Verbalize understanding of condition/disease process and potential complications.
Identify relationship of signs/symptoms to the disease process and correlate symptoms with causative factors.

**Knowledge: Treatment Regimen (NOC)**

Verbalize understanding of therapeutic needs.
Correctly perform necessary procedures and explain reasons for actions.
Initiate necessary lifestyle changes and participate in treatment regimen.

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Teaching: Disease Process (NIC)** | |
| **Independent** | |
| Review disease process and future expectations. | Provides knowledge base from which patient can make informed choices. |
| Determine level of independence/dependence and physical condition. Note extent of care and support available from family/SO and need for other caregivers. | Helps plan amount of care and symptom management required and need for additional resources. |
| Review modes of transmission of disease, especially if newly diagnosed. | Corrects myths and misconceptions; promotes safety for patient/others. Accurate epidemiological data are important in targeting prevention interventions. |
| Instruct patient and caregivers concerning infection control, e.g.: using good handwashing techniques for everyone (patient, family, caregivers); using gloves when handling bedpans, dressings/soiled linens; wearing mask if patient has productive cough; placing soiled/wet linens in plastic bag and separating from family laundry, washing with detergent and hot water; cleaning surfaces with bleach/water solution of 1:10 ratio, disinfecting toilet bowl/bedpan with full-strength bleach; preparing patient's food in clean area; washing dishes/utensils in hot soapy water (can be washed with the family dishes). | Reduces risk of transmission of diseases; promotes wellness in presence of reduced ability of immune system to control level of flora. |
| Stress necessity of daily skin care, including inspecting skin folds, pressure points, and perineum, and of providing adequate cleansing and protective measures, e.g., ointments, padding. | Healthy skin provides barrier to infection. Measures to prevent skin disruption and associated complications are critical. |

| ACTIONS/INTERVENTIONS | RATIONALE |
|---|---|
| **Teaching: Disease Process (NIC)** | |
| **Independent** | |
| Ascertain that patient/SO can perform necessary oral and dental care. Review procedures as indicated. Encourage regular dental care. | The oral mucosa can quickly exhibit severe, progressive complications. Studies indicate that 65% of AIDS patients have some oral symptoms. Therefore, prevention and early intervention are critical. |
| Review dietary needs (high-protein and high-calorie) and ways to improve intake when anorexia, diarrhea, weakness, depression interfere with intake. | Promotes adequate nutrition necessary for healing and support of immune system; enhances feeling of well-being. |
| Discuss medication regimen, interactions, and side effects. | Enhances cooperation with/increases probability of success with therapeutic regimen. (Refer to CP: The HIV-Positive Patient, ND: Therapeutic Regimen: [Individual]/Families, ineffective management.) |
| Provide information about symptom management that complements medical regimen; e.g., with intermittent diarrhea, take diphenoxylate (Lomotil) before going to social event. | Provides patient with increased sense of control, reduces risk of enbarrassment, and promotes comfort. |
| Stress importance of adequate rest. | Helps manage fatigue; enhances coping abilities and energy level. |
| Encourage activity/exercise at level that patient can tolerate. | Stimulates release of endorphins in the brain, enhancing sense of well-being. |
| Stress necessity of continued healthcare and follow-up. | Provides opportunity for altering regimen to meet individual/changing needs. |
| Recommend cessation of smoking. | Smoking increases risk of respiratory infections and can further impair immune system. |
| Identify signs/symptoms requiring medical evaluation, e.g., persistent fever/night sweats, swollen glands, continued weight loss, diarrhea, skin blotches/lesions, headache, chest pain/dyspnea. | Early recognition of developing complications and timely interventions may prevent progression to life-threatening situation. |
| Identify community resources, e.g., hospice/residential care centers, visiting nurse, home care services, Meals on Wheels, peer group support. | Facilitates transfer from acute care setting for recovery/independence or end-of-life care. |

**POTENTIAL CONSIDERATIONS in addition to the nursing diagnoses listed in the plan of care.**

Grieving, anticipatory—loss of physiological/psychological well-being, social/lifestyle changes, loss of SO/family, probability of premature death.

Protection, ineffective—abnormal blood profile (anemia, thrombocytopenia, coagulation), inadequate nutrition, drug therapies (e.g., antineoplastic, immune), chronic disease.

Caregiver Role Strain—illness severity of care receiver, significant home care needs, caregiver health impairment, marginal family adaptation or dysfunction, presence of situational stressors, lack of respite for caregiver, caregiver’s competing role commitments.