Ineffective Breathing Pattern

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NANDA-I

Definition

Inspiration and/or expiration that does not provide adequate ventilation

Defining Characteristics

Alterations in depth of breathing; altered chest excursion; assumption of three-point position; bradypnea; decreased expiratory pressure; decreased inspiratory pressure; decreased minute ventilation; decreased vital capacity; dyspnea; increased anterior-posterior diameter; nasal flaring; orthopnea; prolonged expiration phase; pursed-lip breathing; tachypnea; use of accessory muscles to breathe

Related Factors (r/t)

Anxiety; body position; bony deformity; chest wall deformity; cognitive impairment; fatigue; hyperventilation; hypoventilation syndrome; musculoskeletal impairment; neurological immaturity; neuromuscular dysfunction; obesity; pain; perception impairment; respiratory muscle fatigue; spinal cord injury

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes

Respiratory Status: Airway Patency, Ventilation; Vital Signs

Example NOC Outcome with Indicators

Respiratory Status as evidenced by the following indicators: Respiratory rate/Respiratory rhythm/Depth of inspiration/Auscultated breath sounds/Airway patency/Oxygen saturation/Ease of breathing/Vital capacity. (Rate each indicator of Respiratory Status: 1 = severe deviation from normal range, 2 = substantial deviation from normal range, 3 = moderate deviation from normal range, 4 = mild deviation from normal range, 5 = no deviation from normal range [see Section I].)

Client Outcomes

Client Will (Specify Time Frame):

• Demonstrate a breathing pattern that supports blood gas results within the client’s normal parameters
• Report ability to breathe comfortably
• Demonstrate ability to perform pursed-lip breathing and controlled breathing
• Identify and avoid specific factors that exacerbate episodes of ineffective breathing patterns

NIC (Nursing Interventions Classification)

Suggested NIC Interventions

Airway Management, Respiratory Monitoring

Example NIC Activities—Airway Management

Encourage slow, deep breathing; turning; and coughing; Monitor respiratory and oxygenation status as appropriate

Nursing Interventions and Rationales

• Monitor respiratory rate, depth, and ease of respiration. Normal respiratory rate is 10 to 20 breaths/min in the adult (Jarvis, 2012). EBN: When the respiratory rate exceeds 30 breaths/min, along with other physiological measures, a study demonstrated that a significant physiological alteration existed (Hagle, 2008).

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Ineffective breathing pattern

- Note pattern of respiration. If client is dyspneic, note what seems to cause the dyspnea, the way in which the client deals with the condition, and how the dyspnea resolves or gets worse.
- Note amount of anxiety associated with the dyspnea. A normal respiratory pattern is regular in a healthy adult. To assess dyspnea, it is important to consider all of its dimensions, including antecedents, mediators, reactions, and outcomes.
- Attempt to determine if client’s dyspnea is physiological or psychological in cause. **EB:** Maximal respiratory work is less unpleasant than moderately intense air hunger, and unpleasantness of dyspnea can vary independently from perceived intensity, consistent with pain. Separate dimensions should be measured (Banzett et al, 2008). A study found that when the cause was psychological (medically unexplained dyspnea), there was affective dyspnea, anxiety, and tingling in the extremities, whereas when the dyspnea was physiological, there was associated wheezing, cough, sputum, and palpitations (Han et al, 2008).

**Psychological Dyspnea—Hyperventilation**

- Monitor for symptoms of hyperventilation including rapid respiratory rate, sighing breaths, lightheadedness, numbness and tingling of hands and feet, palpitations, and sometimes chest pain (Bickley & Szilagyi, 2009).
- Assess cause of hyperventilation by asking client about current emotions and psychological state.
- Ask the client to breathe with you to slow down respiratory rate. **Maintain eye contact and give reassurance.** By making the client aware of respirations and giving support, the client may gain control of the breathing rate.
- **▲** Consider having the client breathe in and out of a paper bag as tolerated. This simple treatment helps associated symptoms of hyperventilation, including helping to retain carbon dioxide, which will decrease associated symptoms of hyperventilation (Bickley & Szilagyi, 2009).
- **▲** If client has chronic problems with hyperventilation, numbness and tingling in extremities, dizziness, and other signs of panic attacks, refer for counseling.

**Physiological Dyspnea**

- Ensure that client in acute dyspneic state has received any ordered medications, oxygen, and any other treatment needed.
- Determine severity of dyspnea using a rating scale such as the modified Borg scale, rating dyspnea 0 (best) to 10 (worst) in severity. An alternative scale is the Visual Analogue Scale (VAS) with dyspnea rated as 0 (best) to 100 (worst).
- Note use of accessory muscles, nasal flaring, retractions, irritability, confusion, or lethargy. These symptoms signal increasing respiratory difficulty and increasing hypoxia.
- Observe color of tongue, oral mucosa, and skin for signs of cyanosis. Cyanosis of the tongue and oral mucosa is central cyanosis and generally represents a medical emergency. Peripheral cyanosis of nail beds or lips may or may not be serious (Bickley & Szilagyi, 2009).
- Auscultate breath sounds, noting decreased or absent sounds, crackles, or wheezes. These abnormal lung sounds can indicate a respiratory pathology associated with an altered breathing pattern.
- **▲** Monitor oxygen saturation continuously using pulse oximetry. Note blood gas results as available. An oxygen saturation of less than 90% (normal: 95% to 100%) or a partial pressure of oxygen of less than 80 mm Hg (normal: 80 to 100 mm Hg) indicates significant oxygenation problems.
- Using touch on the shoulder, coach the client to slow respiratory rate, demonstrating slower respirations; making eye contact with the client; and communicating in a calm, supportive fashion. **The nurse’s presence, reassurance, and help in controlling the client’s breathing can be beneficial in decreasing anxiety.** **CEB:** A study demonstrated that anxiety is an important indicator of severity of client’s disease with chronic obstructive pulmonary disease (COPD) (Bailey, 2004).
- Support the client in using pursed-lip and controlled breathing techniques. **Pursed-lip breathing results in increased use of intercostal muscles, decreased respiratory rate, increased tidal volume, and improved oxygen saturation levels** (Faager, Stahle, & Larsen, 2008). **EBN:** A systematic review found pursed-lip breathing effective in decreasing dyspnea (Carrieri-Kohlman & Donesky-Cuenco, 2008).
- **▲** If the client is acutely dyspneic, consider having the client lean forward over a bedside table, resting elbows on the table if tolerated. **Leaning forward can help decrease dyspnea** (Brennan & Mazanec, 2011), possibly because gastric pressure allows better contraction of the diaphragm (Langer et al, 2009). This is called the tripod position and is used during times of distress, including when walking.
- Position the client in an upright position (Brennan & Mazanec, 2011). **An upright position facilitates lung expansion.** See Nursing Interventions and Rationales for **Impaired Gas Exchange** for further information on positioning.

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Administer oxygen as ordered. Oxygen administration has been shown to correct hypoxemia which causes dyspnea (Wong & Elliott, 2009).

- Increase client’s activity to walking three times per day as tolerated. Assist the client to use oxygen during activity as needed. See Nursing Interventions and Rationales for Activity Intolerance. Supervised exercise has been shown to decrease dyspnea and increase tolerance to activity (Reilly, Silverman, & Shapiro, 2012).

- Schedule rest periods before and after activity. Respiratory clients with dyspnea are easily exhausted and need additional rest.

- Evaluate the client’s nutritional status. Refer to a dietician if needed. Use nutritional supplements to increase nutritional level if needed. Improved nutrition may help increase inspiratory muscle function and decrease dyspnea. EBN: A study found that almost half of a group of clients with COPD were malnourished, which can lead to an exacerbation of the disease (Odencrants, Ehnfors, & Ehrenbert, 2008).

- Provide small, frequent feedings. Small feedings are given to avoid compromising ventilatory effort and to conserve energy. Clients with dyspnea often do not eat sufficient amounts of food because their priority is breathing.

- Offer a fan to move the air in the environment. EBN & EB: A systematic review found that the movement of cool air on the face can be effective in relieving dyspnea in pulmonary clients (Carieri-Kohlman & Donesky-Cuenco, 2008). A study found a significant decrease in dyspnea with use of a fan directed at the nose and mouth (Galbraith et al., 2010)

- Encourage the client to take deep breaths at prescribed intervals and do controlled coughing.

- Help the client with chronic respiratory disease to evaluate dyspnea experience to determine if similar to previous incidences of dyspnea and to recognize that he or she made it through those incidences. Encourage the client to be self-reliant if possible, use problem-solving skills, and maximize use of social support.

- Assess client knowledge of and compliance with medication regimen.

- Assist the client and family with identifying other factors that precipitate or exacerbate episodes of ineffective breathing patterns (i.e., stress, allergens, stairs, activities that have high energy requirements).

- Work with the client to determine what strategies are most helpful during times of dyspnea. Educate and empower the client to self-manage the disease associated with impaired gas exchange. EBN & EB: A study found that use of oxygen, self use of medication, and getting some fresh air were most helpful in dealing with dyspnea (Thomas, 2009). Evidence-based reviews have found that self-management offers COPD clients effective options for managing the illness, leading to more positive outcomes (Kaptein et al., 2008).

- Assist the client and family with identifying other factors that precipitate or exacerbate episodes of ineffective breathing patterns (i.e., stress, allergens, stairs, activities that have high energy requirements). Awareness of precipitating factors helps clients avoid them and decreases risk of ineffective breathing episodes.

- Assess client knowledge of and compliance with medication regimen. Client/family may need repetition of instructions received at hospital discharge and may require reiteration as fear of a recent crisis decreases. Fear interferes with the ability to assimilate new information.

- Refer the client for telemonitoring with a pulmonologist as appropriate, with use of an electronic spirometer, or an electronic peak flowmeter. EB: A systematic review of home telemonitoring for conditions such as COPD, asthma, and lung transplantation found that use of telemonitoring resulted in early detection of deterioration of clients’ respiratory status, and positive client receptiveness to the approach (Jaana, Paré, & Sicotte, 2009).

- Teach the client and family the importance of maintaining the therapeutic regimen and having PRN drugs easily accessible at all times. Appropriate and timely use of medications can decrease the risk of exacerbating ineffective breathing.

- Provide the client with emotional support in dealing with symptoms of respiratory difficulty. Provide family with support for care of a client with chronic or terminal illness. Refer to care plan for Anxiety. Witnessing breathing difficulties and facing concerns of dealing with chronic or terminal illness can create fear in caregiver. Fear inhibits effective coping.

- Refer the COPD client for pulmonary rehabilitation. EB: A Cochrane study found pulmonary rehabilitation programs highly effective and safe for a client who has an exacerbation of COPD (Puhan et al., 2009).

Geriatric

- Encourage ambulation as tolerated. Immobility is harmful to the elderly because it decreases ventilation and increases stasis of secretions.

- Encourage elderly clients to sit upright or stand and to avoid lying down for prolonged periods during the day. Thoracic aging results in decreased lung expansion; an erect position fosters maximal lung expansion.

Home Care

- The above interventions may be adapted for home care use.

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Ineffective breathing pattern

- When respiratory procedures (e.g., apneic monitoring for an infant) are being implemented, explain equipment and procedures to family members, and provide needed emotional support. *Family members assuming responsibility for respiratory monitoring often find this stressful. They may not have been able to assimilate fully any instructions provided by hospital staff.*
- When electrically based equipment for respiratory support is being implemented, evaluate home environment for electrical safety, proper grounding, and so forth. Ensure that notification is sent to the local utility company, the emergency medical team, police and fire departments. *Notification is important to provide for priority service.*
- Refer to GOLD guidelines for management of home care and indications of hospital admission criteria (GOLD, 2011).
- Support clients’ efforts at self-care. Ensure they have all the information they need to participate in care.
- Identify an emergency plan including when to call the physician or 911. *Having a ready emergency plan reassures the client and promotes client safety.*
- Refer to occupational therapy for evaluation and teaching of energy conservation techniques.
- Refer to home health aide services as needed to support energy conservation. *Energy conservation decreases the risk of exacerbating ineffective breathing.*
- Institute case management of frail elderly to support continued independent living.

**Client/Family Teaching and Discharge Planning**

- Teach pursed-lip and controlled breathing techniques. **EB:** Studies have demonstrated that pursed-lip breathing was effective in decreasing breathlessness and improving respiratory function (Faager, Stahle, & Larsen, 2008).
- Teach about dosage, actions, and side effects of medications. *Inhaled steroids and bronchodilators can have undesirable side effects, especially when taken in inappropriate doses.*
- Using a prerecorded CD, teach client progressive muscle relaxation techniques. **EB:** *Relaxation therapy can help reduce dyspnea and anxiety* (Langer et al., 2009).
- Teach the client to identify and avoid specific factors that exacerbate ineffective breathing patterns, such as exposure to other sources of air pollution, especially smoking. If client smokes, refer to the smoking cessation section in the Impaired Gas Exchange care plan.

**REFERENCES**


GOLD: Global strategy for the diagnosis, management, and prevention of COPD (revised 2011), 2011, Global Initiative for Chronic Obstructive Lung Disease.


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Decreased Cardiac Output

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**Definition**

Inadequate volume of blood pumped by the heart per minute to meet metabolic demands of the body

**Defining Characteristics**

**Altered Heart Rate/Rhythm**

Arrhythmias; bradycardia; electrocardiographic changes; palpitations; tachycardia

**Altered Preload**

Edema; decreased central venous pressure (CVP); decreased pulmonary artery wedge pressure (PAWP); fatigue; increased central venous pressure (CVP); increased pulmonary artery wedge pressure (PAWP); jugular vein distention; murmurs; weight gain

**Altered Afterload**

Clammy skin; dyspnea; decreased peripheral pulses; decreased pulmonary vascular resistance (PVR); decreased systemic vascular resistance (SVR); increased pulmonary vascular resistance (PVR); increased systemic vascular resistance (SVR); oliguria, prolonged capillary refill; skin color changes; variations in blood pressure readings

**Altered Contractility**

Crackles; cough; decreased ejection fraction; decreased left ventricular stroke work index (LVSWI); decreased stroke volume index (SVI); decreased cardiac index; decreased cardiac output; orthopnea; paroxysmal nocturnal dyspnea; S3 sounds; S4 sounds

**Behavioral/Emotional**

Anxiety; restlessness

**Related Factors (r/t)**

Altered heart rate; altered heart rhythm; altered stroke volume: altered preload, altered afterload, altered contractility

**NOC (Nursing Outcomes Classification)**

**Suggested NOC Outcomes**

Cardiac Pump Effectiveness, Circulation Status, Tissue Perfusion: Abdominal Organs, Peripheral, Vital Signs

**Example NOC Outcome with Indicators**

**Cardiac Pump Effectiveness**

as evidenced by the following indicators: Blood pressure/Heart rate/Cardiac index/Ejection fraction/Activity tolerance/Peripheral pulses/Neck vein distention not present/Heart rhythm/Heart sounds/Angina not present/Peripheral edema not present/Pulmonary edema not present. (Rate the outcome and indicators of Cardiac Pump Effectiveness: 1 = severe deviation from normal range, 2 = substantial deviation from normal range, 3 = moderate deviation from normal range, 4 = mild deviation from normal range, 5 = no deviation from normal range [see Section I].)

**Client Outcomes**

**Client Will (Specify Time Frame):**

- Demonstrate adequate cardiac output as evidenced by blood pressure, pulse rate and rhythm within normal parameters for client; strong peripheral pulses; maintained level of mentation, lack of chest discomfort or dyspnea, and adequate urinary output; an ability to tolerate activity without symptoms of dyspnea, syncope, or chest pain

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Decreased cardiac output

- Remain free of side effects from the medications used to achieve adequate cardiac output
- Explain actions and precautions to prevent primary or secondary cardiac disease

**NIC**
(Nursing Interventions Classification)

**Suggested NIC Interventions**
Cardiac Care, Cardiac Care: Acute

**Example NIC Activities—Cardiac Care**
Evaluate chest pain (e.g., intensity, location, radiation, duration, and precipitating and alleviating factors); Document cardiac dysrhythmias

**Nursing Interventions and Rationales**

- Recognize primary characteristics of decreased cardiac output as fatigue, dyspnea, edema, orthopnea, paroxysmal nocturnal dyspnea, and increased central venous pressure. Recognize secondary characteristics of decreased cardiac output as weight gain, hepatomegaly, jugular venous distention, palpitations, lung crackles, oliguria, coughing, clammy skin, and skin color changes. **EBN**: A nursing study to validate characteristics of the nursing diagnosis decreased cardiac output in a clinical environment identified and categorized related client characteristics that were present as primary or secondary (Martins, Alita, & Rabelo, 2010).

- Monitor and report presence and degree of symptoms including dyspnea at rest or with reduced exercise capacity, orthopnea, paroxysmal nocturnal dyspnea, nocturnal cough, distended abdomen, fatigue, or weakness. Monitor and report signs including jugular vein distention, S3 gallop, rales, positive hepatojugular reflux, ascites, laterally displaced or pronounced PMI, heart murmurs, narrow pulse pressure, cool extremities, tachycardia with pulsus alternans, and irregular heartbeat. **EB**: These are symptoms and signs consistent with heart failure (HF) and decreased cardiac output (Jessup et al, 2009). In a study of primary care clients, breathlessness during exercise, limitations in physical activity, and orthopnea were the three most significant symptoms most often associated with HF (Devroey & Van Casteren, 2011).

- Monitor orthostatic blood pressures and daily weights. **EB**: These interventions assess for fluid volume status (Jessup et al, 2009). **EB**: The extent of volume overload is key to deciding on appropriate treatment for HF (Lindenfeld et al, 2010).

- Recognize that decreased cardiac output that can occur in a number of non-cardiac disorders such as septic shock and hypovolemia. Expect variation in orders for differential diagnoses related to the etiology of decreased cardiac output, as orders will be distinct to address primary cause of altered cardiac output. **EB**: A study of left ventricular function in patients with septic shock identified that 60% developed reversible left ventricular dysfunction that could successfully be hemodynamically supported with IV vasoactive medications (Vieillard-Baron et al, 2008). Obtain a thorough history. **EB**: It is important to assess for behaviors that might accelerate the progression of HF symptoms such as high sodium diet, excess fluid intake, or missed medication doses (Jessup et al, 2009).

▲ Administer oxygen as needed per physician’s order. **EB**: Clinical practice guidelines cite that oxygen should be administered to relieve symptoms related to hypoxemia. Supplemental oxygen at night or for exercise is not recommended unless there is concurrent pulmonary disease. Resting hypoxia or oxygen desaturation may indicate fluid overload or concurrent pulmonary disease (Jessup et al, 2009).

- Monitor pulse oximetry regularly, using a forehead sensor if needed. **CEB**: In a study that compared oxygen saturation values of arterial blood gases to various sensors, it was found that the forehead sensor was significantly better than the digit sensor for accuracy in clients with low cardiac output, while being easy to use and not interfering with client care (Fernandez et al, 2007).

- Place client in semi-Fowler’s or high Fowler’s position with legs down or in a position of comfort. Elevating the head of the bed and legs in down position may decrease the work of breathing and may also decrease venous return and preload.

- During acute events, ensure client remains on short-term bed rest or maintains activity level that does not compromise cardiac output. **In severe HF, restriction of activity reduces the workload of the heart** (Fauci et al, 2008)

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• Provide a restful environment by minimizing controllable stressors and unnecessary disturbances. Schedule rest periods after meals and activities. Rest helps lower arterial pressure and reduce the workload of the myocardium by diminishing the requirements for cardiac output (Fauci et al, 2008).

▲ Apply graduated compression stockings or intermittent sequential pneumatic compression (ISPC) leg sleeves as ordered. Ensure proper fit by measuring accurately. Remove stocking at least twice a day, then reapply. Assess the condition of the extremities frequently. Graduated compression stockings may be contraindicated in clients with peripheral arterial disease (Kahn et al, 2012). **EB:** A study that assessed effects of ISPC on healthy adults found that there were significant increases in cardiac output, stroke volume, and ejection fraction due to increased preload and decreased afterload (Bickel et al, 2011); **EBN:** A study that assessed use of knee-length graduated compression stockings found they are as effective as thigh-length graduated compression stockings. They are more comfortable for clients, are easier for staff and clients to use, pose less risk of injury to clients, and are less expensive as recommended in this study (Hilleren-Listerud, 2009). **EB:** Graduated compression stockings, alone or used in conjunction with other prevention modalities, help promote venous return and reduce the risk of deep vein thrombosis in hospitalized clients (Sachdeva et al, 2010).

▲ Check blood pressure, pulse, and condition before administering cardiac medications such as angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), digoxin, and beta-blockers such as carvedilol. Notify physician if heart rate or blood pressure is low before holding medications. It is important that the nurse evaluate how well the client is tolerating current medications before administering cardiac medications; do not hold medications without physician input. The physician may decide to have medications administered even though the blood pressure or pulse rate has lowered.

▲ Observe for and report chest pain or discomfort; note location, radiation, severity, quality, duration, associated manifestations such as nausea, indigestion, and diaphoresis; also note precipitating and relieving factors. Chest pain/discomfort may indicate an inadequate blood supply to the heart, which can further compromise cardiac output. **EB:** Clients with decreased cardiac output may present with myocardial ischemia. Those with myocardial ischemia may present with decreased cardiac output and HF (Jessup et al, 2009; Lindenfeld et al, 2010).

▲ If chest pain is present, refer to the interventions in **Risk for decreased Cardiac tissue perfusion** care plan.

• Recognize the effect of sleep disordered breathing in HF. **EB & CEB:** A study assessing effects of OSA physiology on left sided cardiac function found that the increase in negative intrathoracic pressure found in OSA led to a decrease in left ventricular systolic performance (Orban et al, 2008). A study that assessed effectiveness of nasal cannula oxygen supplement for nocturnal obstructive sleep apnea found that 75% of HF clients had sleep apnea, and those who exhibited central sleep apnea had significantly reduced episodes when wearing nasal oxygen during sleep (Sakakibara et al, 2005). Sleep-disordered breathing, including obstructive sleep apnea and Cheyne-Stokes with central sleep apnea, are common organic sleep disorders in clients with chronic HF and are a poor prognostic sign associated with higher mortality (Brostrom et al, 2004).

▲ Closely monitor fluid intake, including intravenous lines. Maintain fluid restriction if ordered. In clients with decreased cardiac output, poorly functioning ventricles may not tolerate increased fluid volumes.

• Monitor intake and output. If client is acutely ill, measure hourly urine output and note decreases in output. **EB:** Clinical practice guidelines cite that monitoring I&Os is useful for monitoring effects of diuretic therapy (Jessup et al, 2009). Decreased cardiac output results in decreased perfusion of the kidneys, with a resulting decrease in urine output.

▲ Note results of electrocardiography and chest radiography. **CEB:** Clinical practice guidelines suggest that chest radiography and electrocardiogram are recommended in the initial assessment of HF (Jessup et al, 2009).

▲ Note results of diagnostic imaging studies such as echocardiogram, radionuclide imaging, or dobutamine-stress echocardiography. **EB:** Clinical practice guidelines state that the echocardiogram is a key test in the assessment of HF (Jessup et al, 2009).

▲ Watch laboratory data closely, especially arterial blood gases, CBC, electrolytes including sodium, potassium and magnesium, BUN, creatinine, digoxin level, and B-type natriuretic peptide (BNP assay). Routine blood work can provide insight into the etiology of HF and extent of decompensation. **EB:** Clinical practice guidelines recommend that BNP or NTpro-BNP assay should be measured in clients when the cause of HF is not known (Jessup et al, 2009). A study assessed hyponatremia as a prognostic indicator in clients with preserved left ventricular function and found that hyponatremia at first hospitalization is a powerful predictor of long-term mortality in this group (Rusinaru et al, 2009). Serum creatinine levels will elevate in clients with severe HF because of decreased perfusion to the kidneys. Client may be receiving cardiac glycosides, and the
potential for toxicity is greater with hypokalemia; hypokalemia is common in heart clients because of diuretic use (Fauci et al., 2008).

- Gradually increase activity when client’s condition is stabilized by encouraging slower paced activities or shorter periods of activity with frequent rest periods following exercise prescription; observe for symptoms of intolerance. Take blood pressure and pulse before and after activity and note changes. Activity of the cardiac client should be closely monitored. See Activity Intolerance.

▲ Serve small, frequent, sodium-restricted, low saturated fat meals. Sodium-restricted diets help decrease fluid volume excess. Low saturated fat diets help decrease atherosclerosis, which causes coronary artery disease. Clients with cardiac disease tolerate smaller meals better because they require less cardiac output to digest. **EB:** A study that compared cardiac event-free survival between clients who ingested more or less than 3 grams of dietary sodium daily found that those who were NYHA class III or IV clients benefited the most from dietary intake less than 3 grams daily (Lennie et al., 2011); **EB:** A study that compared HF symptoms with dietary sodium intake found that those with sodium intakes greater than 3 grams per day had more HF symptoms (Son et al., 2011). Emphasis on use of unsaturated fats and less use of saturated fats in the diet is recommended to reduce cardiovascular risk. Polyunsaturates are beneficial to vascular endothelial function, while saturated fats impair vascular endothelial function (Hall et al., 2009; Willett et al., 2011).

- Serve only small amounts of coffee or caffeine-containing beverages if requested (no more than four cups per 24 hours) if no resulting dysrhythmia. **CEB:** A review of studies on caffeine and cardiac arrhythmias concluded that moderate caffeine consumption does not increase the frequency or severity of cardiac arrhythmias (Hogan, Hornick, & Bouchoux, 2002; Myers & Harris, 1990; Schneider, 1987).

▲ Monitor bowel function. Provide stool softeners as ordered. Caution client not to strain when defecating. Decreased activity, pain medication, and diuretics can cause constipation. The Valsalva maneuver which can be elicited by straining during defecation, cough, lifting self onto the bedpan, or lifting self in bed can be harmful (Moser et al., 2008).

- Have clients use a commode or urinal for toileting and avoid use of a bedpan. Getting out of bed to use a commode or urinal does not stress the heart any more than staying in bed to toilet. In addition, getting the client out of bed minimizes complications of immobility and is often preferred by the client (Winslow, 1992).

- Weigh client at same time daily (after voiding). **EB:** Clinical practice guidelines state that weighing at the same time daily is useful to assess effects of diuretic therapy (Jessup et al., 2009). Use the same scale if possible when weighing clients. Daily weight is also a good indicator of fluid balance. Increased weight and severity of symptoms can signal decreased cardiac function with retention of fluids.

▲ Provide influenza and pneumococcal vaccines prior to discharge for those who have yet to receive them. **EB:** Clinical practice guidelines and a Scientific Statement cite that HF hospitalizations are more likely during influenza and winter season, and that having the immunization minimizes that risk (Lindenfeld et al., 2010; Riegel et al., 2009).

- Assess for presence of anxiety and refer for treatment if present. See Nursing Interventions and Rationales for Anxiety to facilitate reduction of anxiety in clients and family. **EB:** A clinical practice guideline recommends that non-pharmacological techniques for stress reduction are a useful adjunct for reduction of anxiety in HF clients (Lindenfeld et al., 2010). A study that assessed the relationship between anxiety and incidence of death, emergency department visits, or hospitalizations found that those with higher anxiety had significantly worse outcomes than those with lower anxiety (De Jong et al., 2011).

▲ Refer for treatment when depression is present. **EBN:** A study on combined depression and level of perceived social support found that depressive symptoms were an independent predictor of increased morbidity and mortality, and those with lower perceived social support had 2.1 times higher risk of events than nondepressed clients with high perceived social support (Chung et al., 2011). A qualitative study that described experiences of clients living with depressive symptoms found that negative thinking was present in all participants, reinforcing depressed mood; multiple stressors worsened depressive symptoms; and depressive symptoms were reduced by finding activities from which to distract (Dekker et al., 2009). A study that assessed health-related quality of life found that baseline depression along with perceived control were strongest predictors of physical symptom status (Heo et al., 2008).

▲ Refer to a cardiac rehabilitation program for education and monitored exercise. **EB & CEB:** Clients with HF should be referred for exercise training when deemed safe, to promote exercise expectations, understanding, and adherence (Lindenfeld et al., 2010). A systematic review of outcomes of exercise based interventions in clients with systolic HF found that hospitalizations and those for systolic HF were reduced for clients in an exercise program and quality of life was improved (Davies et al., 2010). In a study to assess effects of exercise in HF clients, exercise tolerance and left ventricular ejection fraction increased with exercise training (Alves et al., 2012).
- Refer to HF program for education, evaluation, and guided support to increase activity and rebuild quality of life. **CEB:** A study assessing the 6-month outcomes of a nurse practitioner–coordinated HF center found that readmissions, length of stay, and cost per case were all significantly reduced, while quality of life was significantly improved (Crowther et al, 2002).

**Critically Ill**

- Observe for symptoms of cardiogenic shock, including impaired mentation, hypotension with blood pressure lower than 90 mm Hg, decreased peripheral pulses, cold clammy skin, signs of pulmonary congestion, and decreased organ function. If present, notify physician immediately. **Cardiogenic shock is a state of circulatory failure from loss from cardiac function associated with inadequate organ perfusion with a high mortality rate. CEB:** In a study the defining characteristics of decreased cardiac output were best indicated by decreased peripheral pulses and decreased peripheral perfusion (Oliva & Monteiro da Cruz Dile, 2003).

- If shock is present, monitor hemodynamic parameters for an increase in pulmonary wedge pressure, an increase in systemic vascular resistance, or a decrease in stroke volume, cardiac output, and cardiac index. **Hemodynamic parameters give a good indication of cardiac function (Fauci et al, 2008).**

- Titrate inotropic and vasoactive medications within defined parameters to maintain contractility, preload, and afterload per physician’s order. **EB:** Clinical practice guidelines recommend that intravenous inotropic drugs might be reasonable for HF clients presenting with low BP and low cardiac output to maintain systemic perfusion and preserve end-organ performance (Jessup et al, 2009). By following parameters, the nurse ensures maintenance of a delicate balance of medications that stimulate the heart to increase contractility, while maintaining adequate perfusion of the body.

- When using pulmonary arterial catheter technology, be sure to appropriately level and zero the equipment, use minimal tubing, maintain system patency, perform square wave testing, position the client appropriately, and consider correlation to respiratory and cardiac cycles when assessing waveforms and integrating data into client assessment. **EB:** Clinical practice guidelines recommend that invasive hemodynamic monitoring can be useful in acute HF with persistent symptoms when therapy is refractory, fluid status is unclear, systolic pressures are low, renal function is worsening, vasoactive agents are required, or when considering advanced device therapy or transplantation (Jessup et al, 2009).

- Observe for worsening signs and symptoms of decreased cardiac output when using positive pressure ventilation. **EB:** Positive pressure ventilation and mechanical ventilation are associated with a decrease in preload and cardiac output (Lukacsovits, Carlussi, & Hill, 2012; Yucel et al, 2011).

- Recognize that clients with cardiogenic pulmonary edema may have noninvasive positive pressure ventilation (NPPV) ordered. **EB:** Clinical practice guidelines for HF state that continuous positive airway pressure improves daily functional capacity and quality of life for those with HF and obstructive sleep apnea (Lindenfeld et al, 2010) and is reasonable for clients with refractory HF not responding to other medical therapies (Jessup et al, 2009). A systematic review of NPPV for cardiogenic pulmonary edema found that use of NPPV significantly reduced mortality and intubation, while decreasing ICU stay by 1 day (Vital et al, 2009).

- Monitor client for signs and symptoms of fluid and electrolyte imbalance when clients are receiving ultrafiltration or continuous renal replacement therapy (CRRT). **Clients with refractory HF may have ultrafiltration or CRRT ordered as a mechanical method to remove excess fluid volume. EB:** Clinical practice guidelines cite that ultrafiltration is reasonable for clients with refractory HF not responsive to medical therapy (Jessup et al, 2009).

- Recognize that hypoperfusion from low cardiac output can lead to altered mental status and decreased cognition. **EB & CEB:** A study that assessed an association among cardiac index and neuropsychological ischemia found that decreased function, even with normal cardiac index, was associated with accelerated brain aging (Jefferson et al, 2010). A study that assessed the relationship between hypoperfusion and neuropsychological performance found that among stable geriatric HF clients, executive functions of sequencing and planning were altered (Jefferson et al, 2007).

**Geriatric**

- Recognize that elderly clients may demonstrate fatigue and depression as signs of HF and decreased cardiac output (Lindenfeld et al, 2010).

- If client has heart disease causing activity intolerance, refer for cardiac rehabilitation. **EBN:** A study that assessed clients’ acceptance of a cardiac rehabilitation program found knowledge and perceived quality of life had increased significantly, and anxiety and depression had been reduced at the end of the program and at 6 month follow-up (Muschalla, Glatz, & Karger, 2011).

- = Independent  **CEB** = Classic Research  ▲ = Collaborative  **EBN** = Evidence-Based Nursing  **EB** = Evidence-Based
• Observe for syncope, dizziness, palpitations, or feelings of weakness associated with an irregular heart rhythm. **CEB & EB:** Dysrhythmias, particularly atrial fibrillation and ventricular ectopy, and both non-sustained and sustained ventricular tachycardia are common in clients with HF (Hunt et al, 2005; Lindenfeld et al, 2010).

▲ Observe for side effects from cardiac medications. The elderly have difficulty with metabolism and excretion of medications due to decreased function of the liver and kidneys; therefore toxic side effects are more common.

• Design educational interventions specifically for the elderly. **EB:** Many elderly HF clients have low levels of knowledge about HF self-care and have limitations in function and cognition, low motivation, and low self-esteem. They require skilled assessment of educational level and ability to be successful with self-care (Strömberg, 2005).

### Home Care

• Some of the above interventions may be adapted for home care use. Home care agencies may use specialized staff and methods to care for chronic HF clients. **CEB:** A study assessing HF outcomes over a 10-year period between a multidisciplinary home care intervention and usual care found significantly improved survival and prolonged event-free survival and was both cost- and time-effective (Ingles et al, 2006).

▲ Continue to monitor client closely for exacerbation of HF when discharged home. **CEB:** Home visits and phone contacts that emphasize client education and recognition of early symptoms of exacerbation can decrease rehospitalization (Gorski & Johnson, 2003).

• After acute hospitalization, the majority of HF clients education is performed, including social support of others, with each session focused on assessment of current knowledge, client learning priorities, and barriers to change (Lindenfeld et al, 2010).

• Assess for signs/symptoms of cognitive impairment. **EBN:** Impaired cognitive function can affect 25-50% of HF clients and is associated with poorer HF self-care. Etiology of this phenomenon may be poorer regional blood flow to areas of the brain (Riegel et al, 2009).

• Assess for fatigue and weakness frequently. Assess home environment for safety, as well as resources/obstacles to energy conservation. Instruct client and family members on need for behavioral pacing and energy conservation. **EBN:** Fatigue and weakness limit activity level and quality of life. Assistive devices and other techniques of work simplification can help the client participate in and respond to the health care regimen more effectively (Quaglietti et al, 2004).

• Help family adapt daily living patterns to establish life changes that will maintain improved cardiac functioning in the client. Take the client’s perspective into consideration and use a holistic approach in assessing and responding to client planning for the future. **Transition to the home setting can cause risk factors such as inappropriate diet to reemerge.**

• Assist client to recognize and exercise power in using self-care management to adjust to health change. **EBN:** Identified self-care behaviors, barriers to self-care, interventions to promote self-care, and evaluation of effects of self-care are important to maintain the heart failure client’s quality of life and functional status and to reduce mortality from the syndrome (Riegel et al, 2009). Refer to care plan for **Powerlessness.**

▲ Explore barriers to medical regimen adherence. Review medications and treatment regularly for needed modifications. Take complaints of side effects seriously and serve as client advocate to address changes as indicated. **The presence of uncomfortable side effects frequently motivates clients to deviate from the medication regimen.**

▲ Refer for cardiac rehabilitation and strengthening exercises if client is not involved in outpatient cardiac rehabilitation.

▲ Refer to medical social services as necessary for counseling about the impact of severe or chronic cardiac disease. **Social workers can assist the client and family with acceptance of life changes.**

▲ Institute case management of frail elderly to support continued independent living.

▲ As the client chooses, refer to palliative care for care, which can begin earlier in the care of the HF client. Palliative care can be used to increase comfort and quality of life in the HF client before end-of-life care (Buck & Zambroski, 2012).

▲ If the client’s condition warrants, refer to hospice. **EB & CEB:** End-of-life discussions should occur with clients and family as end-stage heart failure becomes refractory to therapy (Hunt et al, 2005; Lindenfeld et al, 2010). The multidisciplinary hospice team can reduce hospital readmission, increase functional capacity, and improve quality of life in end-stage HF (Coviello, Hricz, & Masulli, 2002).
• Identify emergency plan in advance, including whether use of cardiopulmonary resuscitation (CPR) is desired. Encourage family members to become certified in cardiopulmonary resuscitation if the client desires. EB: A study that assessed the client’s perspective on end-of-life care found that the three most important issues ranked included avoidance of life support if there was no hope of survival, provider communication and reduced family burden (Strachan et al, 2009);

Client/Family Teaching and Discharge Planning

• Begin discharge planning as soon as possible upon admission to the emergency department (ED) with case manager or social worker to assess home support systems and the need for community or home health services. Consider referral for advanced practice nurse (APN) follow-up. Support services may be needed to assist with home care, meal preparations, housekeeping, personal care, transportation to doctor visits, or emotional support. CEB: A study to assess degree of social support as a predictor of heart failure readmission demonstrated that those without someone living with them had a greater readmission rate in a dose-dependent response, but no correlation to death was found (Rodriguez-Artalejo et al, 2006). Clients often need help on discharge.

▲ Refer to case manager or social worker to evaluate client ability to pay for prescriptions. The cost of drugs may be a factor in filling prescriptions and adhering to a treatment plan.

• Include significant others in client teaching opportunities. Include all six areas of discharge instructions for heart failure hospitalizations: Daily weight monitoring/reporting, symptoms recognition/reporting/when to call for help, smoking cessation, low-sodium diet, medication use and adherence, and regular follow-up with providers. EB: A scientific statement cites social support from family and friends as being positively associated with better medication adherence and self-care maintenance, and lower readmission rates (Riegel et al, 2009). Failure to understand and comply with educational instructions is a major cause of HF exacerbation and hospital readmissions (Jessup et al, 2009). Clinical guidelines recommend that hospitalized heart failure clients be given basic instructions prior to discharge to facilitate self-care and management at home (Jessup et al, 2009).

• Teach importance of performing and recording daily weights upon arising for the day, and to report weight gain. Ask if client has a scale at home; if not, assist in getting one. EB: Clinical practice guidelines suggest that daily weight monitoring leads to early recognition of excess fluid retention, which, when reported, can be offset with additional medication to avoid hospitalization from heart failure decompensation (Jessup et al, 2009). Daily weighing is an essential aspect of self-management. A scale is necessary. Scales vary; the client needs to establish a baseline weight on the home scale.

• Teach types and progression patterns of heart failure symptoms, when to call the physician for help, and when to go to the hospital for urgent care. EB: Inability to recognize or adequately interpret symptom worsening heart failure is common among heart failure clients. Early symptom recognition and early self-help measures or professional evaluation and treatment lead to improved outcomes (Riegel et al, 2009).

• Teach importance of smoking cessation and avoidance of alcohol intake. Help clients who smoke stop by informing them of potential consequences and by helping them find an effective cessation method. EB: Smoking has vasoconstrictor and pro-inflammatory properties that impede effective cardiac output. Discontinuation of smoking leads to reduced adverse consequences, including decreased mortality in HF (Riegel et al, 2009). Smoking cessation advice and counsel given by nurses can be effective and should be available to clients to help stop smoking (Rice & Stead, 2008).

• Teach the direct benefits of a low-sodium diet. EB: A scientific statement and clinical guidelines on heart failure recommend a 2-3 gram/day sodium diet for most stable heart failure clients, and less when heart failure severity warrants (Jessup et al, 2009; Lindenfeld et al, 2010; Riege et al, 2009). Sodium retention leading to fluid overload is a common cause of hospital readmission (Fauci et al, 2008).

▲ Teach the client importance of consistently taking cardiovascular medications, and include actions, side effects to report. EB: A scientific statement cited that adherence to medications ranges from 5% to 90%. In one study 88% adherence was required in heart failure clients to achieve event-free survival. The study cited as reasons for non-adherence, depression, cost, attitudes about taking medication, worrying about or feeling side effects including those on sexual function, receipt of conflicting information about medications from different prescribers, and lack of understanding about discharge instructions (Riegel et al, 2009). Evidence-based guidelines state that taking medication as directed can help prevent HF decompensation, and rehospitalization, and decrease morbidity (Jessup et al, 2009).

• Instruct client and family on the importance of regular follow up care with providers. EB: Post discharge support can significantly reduce hospital readmissions and improve health care outcomes, quality of life, and costs (Hernandez et al, 2010; Jessup et al, 2009).

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• Teach stress reduction (e.g., imagery, controlled breathing, muscle relaxation techniques). **CEB: A study that assessed effects of relaxation or exercise in heart failure clients versus controls found that those who participated in regular relaxation therapy or exercise training reported greater improvements in psychological outcomes, with the relaxation group significantly improving depression and the exercise group more improving fatigue (Yu et al, 2007).**

▲ Refer to an outpatient system of care. **EB: Systems of care such as disease management, telemonitoring, and telehealth promote self-care, facilitating transitions across settings (Riegel et al, 2009).**

• Provide client/family with advance directive information to consider. Allow client to give advance directions about medical care or designate who should make medical decisions if he or she should lose decision-making capacity. **EB: Heart failure guidelines recommends that clients and families be educated about end-of-life options prior to client decline, and with a change in clinical status (Jessup et al, 2009).**

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### REFERENCES


Risk for decreased cardiac tissue perfusion


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**NANDA-I**

**Definition**

Risk for a decrease in cardiac (coronary) circulation

**Risk Factors**

Hypertension; hyperlipidemia; cigarette smoking, family history of coronary artery disease; diabetes mellitus; alcohol and drug abuse, obesity, cardiac surgery; hypovolemia; hypoxemia; hypoxia; coronary artery spasm; septic shock, cardiac tamponade; birth control pills, elevated C-reactive protein; lack of knowledge of modifiable risk factors (e.g., smoking, sedentary lifestyle, obesity)

**NOC** *(Nursing Outcomes Classification)*

**Suggested NOC Outcomes**

Cardiac Pump Effectiveness, Circulation Status, Tissue Perfusion: Cardiac, Tissue Perfusion: Cellular, Vital Signs

**Example NOC Outcome with Indicators**

*Tissue Perfusion: Cardiac* as evidenced by the following indicators: Angina/Arrhythmia/Tachycardia/Bradyarrhythmia/Nausea/Vomiting/Profuse diaphoresis. (Rate the outcome and indicators of Tissue Perfusion: Cardiac: 1 = severe, 2 = substantial, 3 = moderate, 4 = mild, 5 = none [see Section I].)

**Client Outcomes**

**Client Will (Specify Time Frame):**

- Maintain vital signs within normal range
- Retain a normal cardiac rhythm (have absence of arrhythmias, tachycardia, or bradycardia)
- Be free from chest and radiated discomfort as well as associated symptoms related to acute coronary syndromes
- Deny nausea and be free of vomiting
- Have skin that is dry and of normal temperature

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Risk for decreased cardiac tissue perfusion

**NIC**
(Nursing Interventions Classification)

**Suggested NIC Interventions**
Cardiac Care, Cardiac Precautions, Embolus Precautions, Dysrhythmia Management, Vital Signs Monitoring, Shock Management: Cardiac

**Example NIC Activity—Cardiac Precautions**
Avoid causing intense emotional situations; Avoid overheating or chilling the client; Provide small frequent meals; Substitute artificial salt and limit sodium intake if appropriate; Promote effective techniques for reducing stress; Restrict smoking

**Nursing Interventions and Rationales**

- Be aware that the most common cause of acute coronary syndromes (ACS) [unstable angina (UA), non-ST-elevation myocardial infarction (NSTEMI), and ST-elevation myocardial infarction (STEMI)] is reduced myocardial perfusion associated with partially or fully occlusive thrombus development in coronary arteries (Anderson et al, 2011; Antman et al, 2008).
- Assess for symptoms of coronary hypoperfusion and possible ACS including chest discomfort (pressure, tightness, crushing, squeezing, dullness, or aching), with or without radiation (or originating) in the back, neck, jaw, shoulder, or arm discomfort or numbness; SOB; associated diaphoresis; dizziness, light-headedness, loss of consciousness; nausea or vomiting with chest discomfort, heartburn or indigestion; associated anxiety. **EB:** These symptoms are signs of decreased cardiac perfusion and acute coronary syndrome such as UA, NSTEMI, or STEMI. A physical assessment will aid in assessment of the extent, location and presence of, and complications resulting from a myocardial infarction. It will promote rapid triage and treatment. It is also important to assess if the client had a prior stroke (American Heart Association, 2011a; Anderson et al, 2011).
- Consider atypical presentations for women, and diabetic clients of ACS. **EB & CEB:** Women and diabetic clients may present with atypical findings. A systematic review of differences showed that women had significantly less chest discomfort and were more likely to present with fatigue, neck pain, syncope, nausea, right arm pain, dizziness, and jaw pain (Coventry, Finn, & Bremner, 2011).
- Review the client’s medical, surgical, and social history. **EB:** A medical history must be concise and detailed to determine the possibility of acute coronary syndromes, and to help determine the possible cause of cardiac symptoms and pathology (Anderson et al, 2011).
- Perform physical assessments for both CAD and non-coronary findings related to decreased coronary perfusion including vital signs, pulse oximetry, equal blood pressure in both arms, heart rate, respiratory rate, and pulse oximetry. Check bilateral pulses for quality and regularity. Report tachycardia, bradycardia, hypotension or hypertension, pulsus alternans or pulsus paradoxus, tachypnea, or abnormal pulse oximetry reading. Assess cardiac rhythm for arrhythmias; skin and mucous membrane color, temperature and dryness; and capillary refill. Assess neck veins for elevated central venous pressure, cyanosis, and pericardial or pleural friction rub. Examine client for cardiac S4 gallop, new heart murmur, lung crackles, altered mentation, pain to abdominal palpation, decreased bowel sounds, or decreased urinary output **EB:** These indicators help to assess for cardiac and non-cardiac etiologies of symptoms and differential diagnoses (Anderson et al, 2011; Antman et al, 2008).
- Administer oxygen as ordered and needed for clients presenting with ACS to maintain a PO2 of at least 90%. **EB:** Hypoxemia can be under-recognized in the first 6 hours of ACS treatment. Maintaining a SaO2 level of 90% or more may decrease the pain associated with myocardial ischemia by increasing the amount of oxygen delivered to the myocardium (Anderson et al, 2011). **EB:** Advanced Cardiac Life Support guidelines recommend administering oxygen if the oxygen saturation is less than 94% (O’Connor et al, 2012). A Cochrane review found there was limited evidence to recommend use of oxygen with acute coronary syndrome, more studies are needed (Cabello et al, 2010).
- Use continuous pulse oximetry as ordered. **EB:** Prevention and treatment of hypoxemia includes maintaining arterial oxygen saturation over 90% (Anderson et al, 2011).
- Insert one or more large-bore intravenous catheters to keep the vein open. Routinely assess saline locks for patency. Clients who come to the hospital with possible decrease in coronary perfusion or ACS may have
intravenous fluids and medications ordered routinely or emergently to maintain or restore adequate cardiac function and rhythm.

▲ Observe the cardiac monitor for hemodynamically significant arrhythmias, ST depressions or elevations, T wave inversions and/or Q waves as signs of ischemia or injury. Report abnormal findings. **EB: Arrhythmias and electrocardiogram (ECG) changes indicate myocardial ischemia, injury and/or infarction (Anderson et al, 2011; Antman et al, 2008).**

▲ Have emergency equipment and defibrillation capability nearby and be prepared to defibrillate immediately if ventricular tachycardia with clinical deterioration or ventricular fibrillation occurs. **EB: Life-threatening ventricular arrhythmias require defibrillation (Anderson et al, 2011).**

▲ Perform a 12-lead ECG as ordered, to be interpreted within 10 minutes of emergency department arrival and during episodes of chest discomfort or angina equivalent. **EB: A 12-lead ECG should be performed within 10 minutes of emergency department arrival for all clients who are having chest discomfort. Electrocardiograms are used to identify the area of ischemia or injury such as ST depressions or elevations, new left bundle branch block, T wave inversions, and/or Q waves and guide treatment (Anderson et al, 2011; Antman et al, 2008).**

▲ Administer aspirin as ordered. **EB: Aspirin has been shown to prevent platelet clumping, aggregation, and activation that leads to thrombus formation, which in coronary arteries leads to acute coronary syndromes. Contraindications include active peptic ulcer disease, bleeding disorders, and aspirin allergy (Anderson et al, 2011; Antman et al, 2008).**

▲ Administer nitroglycerin tablets sublingually as ordered, every 5 minutes until the chest pain is resolved while also monitoring the blood pressure for hypotension, for a maximum of three doses as ordered. Administer nitroglycerin paste or intravenous preparations as ordered. **EB: Nitroglycerin causes coronary arterial and venous dilation, and at higher doses arterial dilation, thus reducing preload and afterload and decreasing myocardial oxygen demand while increasing oxygen delivery (Anderson et al, 2011).**

▲ Do not administer nitroglycerin preparations to clients who have received phosphodiesterase type 5 inhibitors, such as sildenafil, tadalafil, or vardenafil, in the last 24 hours (48 hours for long-acting preparations). **EB: Synergistic effect causes marked exaggerated and prolonged vasodilation/hypotension (Anderson et al, 2011; Antman et al, 2008).**

▲ Administer morphine intravenously as ordered every 5 to 30 minutes while monitoring blood pressure when nitroglycerin alone does not relieve chest discomfort. **EB: Morphine has potent analgesic and anti-anxiolytic effects and causes mild reductions in blood pressure and heart rate that reduce myocardial oxygen consumption. It increases venous capacitance in pulmonary edema associated with decreased coronary perfusion and resultant myocardial dysfunction (Anderson et al, 2011; Antman et al, 2008).**

▲ Assess and report abnormal lab work results of cardiac enzymes, specifically troponin I, chemistries, hematology, coagulation studies, arterial blood gases, finger stick blood sugar, elevated C-reactive protein, or drug screen. Abnormalities can identify the cause of the decreased perfusion and identify complications related to the decreased perfusion such as anemia, hypovolemia, coagulopathy, drug abuse or hyperglycemia. Elevated cardiac enzymes are indicative of a myocardial infarction (Anderson et al, 2011).

▲ Assess for individual risk factors for coronary artery disease, such as hypertension, dyslipidemia, cigarette smoking, diabetes mellitus, or family history of heart disease. Other risk factors including sedentary lifestyle, obesity, or cocaine or amphetamine use. Note age and gender as risk factors. **EB: Certain conditions place clients at higher risk for decreased cardiac tissue perfusion (Anderson et al, 2011).**

▲ Administer additional heart medications as ordered including beta blockers, calcium channel blockers, ACE inhibitors, aldosterone antagonists, antiplatelet agents, and anticoagulants. Always check the blood pressure and pulse rate before administering these medications. If the blood pressure or pulse rate is low, contact the physician to see if the medication should be held. Also check platelet counts and coagulation studies as ordered to assess proper effects of these agents. **EB: These medications are useful to optimize cardiac function including blood pressure, heart rate, myocardial oxygen demand, intravascular fluid volume and cardiac rhythm (Anderson et al, 2011; Antman et al, 2008).**

▲ Administer lipid-lowering therapy as ordered. **EB: LDL-C equal to or over 100 mg/dL requires use of LDL lowering drug therapy to prevent progression and possibly cause regression of coronary artery plaques (Anderson et al, 2011). A systematic review of statin use in primary prevention of cardiovascular disease showed reductions in all-cause mortality, major vascular events, and revascularizations (Taylor et al, 2011).**

▲ Prepare client with education, withholding meals and/or medications, and intravenous access for cardiac catheterization and possible PCI with door to balloon time of under 90 minutes if STEMI is suspected.
Risk for decreased cardiac tissue perfusion

**EB & CEB:** Door to balloon time of under 90 minutes was associated with improved client outcomes (Antman et al, 2008; McNamara et al, 2006).

- Prepare clients with education, withholding meals and/or medications, and intravenous access for noninvasive cardiac diagnostic procedures such as 2D echocardiogram, exercise or pharmacological stress test, and cardiac CT scan as ordered. **EB:** Clients suspected of decreased coronary perfusion should receive these diagnostic procedures as appropriate to evaluate for coronary artery disease (Anderson et al, 2011; Antman et al, 2008).

- Maintain bed rest or chair rest as ordered by the physician. **EB:** Anti-ischemic therapy includes minimizing myocardial oxygen demand in the early hospital phase (Anderson et al, 2011).

- For further medical and nursing interventions used in care of client with an acute coronary event, refer to the reference by Anderson et al (2011).

- Request a referral to a cardiac rehabilitation program. **EB:** Cardiac rehabilitation programs are designed to limit the physiological and psychological effects of cardiac disease, reduce the risk for sudden cardiac death and reinfarction, control symptoms and stabilize or reverse the process of plaque formation, and enhance psychosocial and vocational status of clients (Anderson et al, 2011; Smith et al, 2011).

**Geriatric**

- Consider atypical presentations for the elderly of possible ACS. **CEB:** Elderly may present with atypical signs and symptoms such as weakness, stroke, syncope, or change in mental status (Anderson et al, 2007).

- Ask the prescriber about possible reduced dosage of medications for geriatric clients considering weight and creatinine clearance. **EB:** Geriatric clients have reduced pharmacokinetics including reduced muscle mass, renal and hepatic function, and reduced volume of distribution (Anderson et al, 2011).

- Consider issues such as quality of life, palliative care, end-of-life care, and differences in sociocultural aspects for clients and families when supporting them in decisions regarding aggressiveness of care (Anderson et al, 2011).

**Client/Family Teaching and Discharge Planning**

- Provide information about provider follow-up. **EB:** Current recommendations suggest that high-risk clients should be seen within 2 weeks and within 2 to 6 weeks for lower risk clients (Antman et al, 2008).

- Teach the client and family to call 911 for symptoms of new angina, existing angina unresponsive to rest and sublingual nitroglycerin tablets, or heart attack. Do not use friends or family for transportation where 911 is available, unless the delay is expected to be longer than 20 to 30 minutes. **EB & CEB:** Morbidity and mortality from myocardial infarction can be reduced significantly when symptoms are recognized and EMS activated, shortening time to definitive treatment (Anderson et al, 2011).

- Upon discharge, instruct clients on symptoms of ischemia, when to cease activity, when to use sublingual nitroglycerin, and when to call 911. **EB:** Degree and extent of myocardial ischemia is related to duration of time with inadequate supply of oxygen-rich blood (Anderson et al, 2011).

- Teach client about any medications prescribed. Medication teaching includes the drug name, its purpose, administration instructions such as taking it with or without food, and any side effects to be aware of. Instruct the client to report any adverse side effects to his/her provider.

- Upon hospital discharge, educate clients and significant others about discharge medications, including nitroglycerin sublingual tablets or spray, with written, easy to understand, culturally sensitive information. Clients and significant others need to be prepared to act quickly and decisively to relieve ischemic discomfort (Anderson et al, 2011).

- Provide client teaching related to risk factors for decreased cardiac tissue perfusion, such as hypertension, hypercholesterolemia, diabetes mellitus, tobacco use, advanced age, and gender (female). **EB:** Those with two or more risk factors should have a 10-year risk screening for development of symptomatic coronary heart disease. Client education is a vital part of nursing care for the client. Start with the client’s base level of understanding and use that as a foundation for further education. It is important to factor in cultural and/or religious beliefs in the education provided (Anderson et al, 2011).

- Instruct the client on antiplatelet and anticoagulation therapy about signs of bleeding, need for ongoing medication compliance, and INR monitoring. **EB:** A review of client education literature showed a need to prioritize education domains, standardize educational content, and deliver that content efficiently (Wofford, Wells, & Singh, 2008).

- After discharge, continue education and support for client blood pressure and diabetes control, weight management, and resumption of physical activity. **EB:** Reduction of risk factors aids as secondary prevention

- Provide influenza vaccine prior to discharge (Anderson et al, 2011; Antman et al, 2008).
- Stress the importance of ceasing tobacco use. Tobacco use can cause or worsen decreased blood flow in the coronaries. Effects of nicotine include increasing pulse and blood pressure and constricting of blood vessels. Tobacco use is a primary factor in heart disease. EBN: Smoking causes vasoconstriction, which can lead to atherosclerotic disease (American Heart Association, 2012c; Anderson et al, 2011).
- Upon hospital discharge, educate clients about low sodium, low saturated fat diet, with consideration to client education, literacy and health literacy level. EB: Reduction of risk factors aid as primary and secondary prevention of coronary artery disease (Anderson et al, 2011). ATP III guidelines recommend that saturated fats be kept to less than 7% of calories and cholesterol under 200 mg/day when LDL is above goal (http://www.nhlbi.nih.gov/guidelines/cholesterol/index.htm). A Cochrane review recommended that there be a permanent reduction in saturated fats and replacement with unsaturated fats to decrease atherosclerosis (Hopper et al, 2012).
- Teach the importance of exercise. Exercise helps control blood pressure and weight, which are the most important controlled risk factors for cardiovascular disease (Smith et al, 2011).

REFERENCES

Caregiver Health Status

Physical
Cardiovascular disease; diabetes; fatigue; GI upset; headaches; hypertension; rash; weight change

Behavioral
Poor self-care behaviors; increased smoking; increased alcohol consumption; sleep disturbances

Emotional
Anger; anxiety; disturbed sleep; feeling depressed; frustration; impaired individual coping; impatience; increased emotional lability; increased nervousness; lack of time to meet personal needs; somatization; stress

Socioeconomic
Changes in leisure activities; low work productivity; quitting work or refusing career advancement to provide care, withdrawing from social life; financial distress including, but not limited to, poverty and bankruptcy

Caregiver–Care Recipient Relationship
Difficulty watching care recipient go through the illness; grief regarding changed relationship with care recipient; uncertainty regarding changed relationship with care recipient

Family Processes
Concerns about family members; family conflict; family cohesion; family dysfunction

Related Factors (r/t)

Care Recipient Health Status
Addiction; codependence; cognitive problems; dependency; illness chronicity; illness severity; increasing care needs; instability of care recipient’s health; problem behaviors; psychological problems; unpredictability of illness course

Caregiver Health Status
Addiction; codependency; cognitive problems; inability to fulfill one’s own expectations; inability to fulfill others’ expectations; marginal coping patterns; physical problems; psychological problems; unrealistic expectations of self

Caregiver–Care Recipient Relationship
History of poor relationship; mental status of elder inhibiting conversation, presence of abuse or violence; unrealistic expectations of caregiver by care recipient

Caregiving Activities
24-hour care responsibilities; amount of activities (including number of hours and specific activities that are distressful); complexity of activities; discharge of family members to home with significant care needs; ongoing changes in activities; unpredictability of care situation; years of caregiving

Family Processes
History of family dysfunction; history of marginal family coping

Resources
Caregiver is not developmentally ready for caregiver role; deficient knowledge about community resources; difficulty accessing community resources; emotional strength; formal assistance; formal support; inadequate community resources (e.g., respite services, recreational resources); inadequate equipment for providing care; inadequate physical environment for providing care (e.g., housing, temperature, safety); inadequate transportation; inexperience with caregiving; informal assistance; informal support; insufficient finances; insufficient time; lack of caregiver privacy; lack of support; physical energy

Socioeconomic
Alienation from others; competing role commitments; insufficient recreation; isolation from others; financial distress including potential loss of loss of home and savings

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Suggested NOC Outcomes
Caregiver Adaptation to Patient Institutionalization, Caregiver Emotional Health, Caregiver Home Care Readiness, Caregiver Lifestyle Disruption, Caregiver-Patient Relationship, Caregiver Performance: Direct Care, Caregiver Performance: Indirect Care, Caregiver Physical Health, Caregiver Role Support, Caregiver Role Endurance, Caregiver Stressors, Caregiver Well-Being

Example NOC Outcome with Indicators

**Caregiver Emotional Health** with plans for a positive future as evidenced by the following indicators: Satisfaction with life/Sense of control/Self-esteem/Perceived social connectedness/Perceived spiritual well-being. (Rate the outcome and indicators of Caregiver Emotional Health: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see Section I].)

Client Outcomes

**Throughout the care situation, the caregiver will:**
- Feel supported by health care professionals, family, and friends
- Report reduced or acceptable feelings of burden or distress
- Take part in self-care activities to maintain own physical and psychological/emotional health
- Identify resources available to help in giving care or to support the caregiver to give care
- Verbalize mastery of the care situation; feel confident and competent to provide care

**Throughout the care situation, the care recipient will:**
- Obtain quality and safe care

Suggested NIC Intervention
Caregiver Support

Example NIC Activities—Caregiver Support
Determine caregiver’s acceptance of role; Accept expressions of negative emotion

Nursing Interventions and Rationales

- Regularly monitor signs of depression, anxiety, burden, and deteriorating physical health in the caregiver throughout the care situation, especially if the marital relationship is poor, the care recipient has cognitive or neuropsychiatric symptoms, there is little social support available, the caregiver becomes enmeshed in the care situation, the caregiver is elderly, female, or has poor preexisting physical or emotional health. Refer to the care plan for **Hopelessness** when appropriate. EBN: The incidence of depression in family caregivers can be higher than that of the patient with chronic illness (Williams & McCorkle, 2011). EB: Caring may weaken the immune system and predispose the caregiver to illness, particularly cardiac illness and poor response to acquired infections in some situations (Gallagher et al, 2008; Gouin, Hantsoo, & Kiecolt-Glaser, 2008; Lovell, Moss, & Wetherell, 2012). Particular subgroups have been shown to be at high risk for becoming distressed as a result of providing care (Schoenmakers, Buntinx, & Delepeleire, 2010).

- The impact of providing care on the caregiver’s emotional health should be assessed at regular intervals using a reliable and valid instrument such as the Caregiver Strain Index, Caregiver Burden Inventory, Caregiver Reaction Assessment, Screen for Caregiver Burden, and the Subjective and Objective Burden Scale (Deeken et al, 2003; Vitaliano et al, 1991). CEB & EBN: Research has validated the effectiveness of a number of evaluation tools for caregiver stress, including the Caregiver Reaction Assessment (Given et al, 1992), Burden Interview (Zarit et al, 1980), the Caregiver Strain Index (Robinson, 1983), and the
Caregiver role strain

Caregiver Burden Inventory (Novak & Guest, 1989). Caregiver assessment tools should be multidimensional and evaluate the impact of providing care on multiple aspects of the caregiver’s life (Hudson & Hayman-White, 2006).

- Identify potential caregiver resources such as mastery, social support, optimism, and positive aspects of care. **EB & EBN:** Research has shown that caregivers can have simultaneous positive and negative responses to providing care. Positive responses may help to buffer the negative effects of providing care on caregivers’ emotional health and may also increase the effectiveness of interventions to reduce strain (Kruthof, Visser-Meily, & Post, 2011).

- Screen for caregiver role strain at the onset of the care situation, at regular intervals throughout the care situation, and with changes in care recipient status and care transitions, including institutionalization. **EB & EBN:** Care situations that last for several months or years can cause wear and tear that exhaust caregivers’ coping mechanisms and available resources and that may continue after the care recipient has been institutionalized (Paun & Farran, 2011). In addition, changes in the care recipient’s health status necessitate new skills and monitoring from the caregiver and affect the caregiver’s ability to continue to provide care (Given, Sherwood, & Given, 2011). Providing caregiver support throughout the care situation may decrease care recipient institutionalization (Matsuzawa, 2011).

- Watch for caregivers who become enmeshed in the care situation. **EB:** Caregivers are at risk for becoming overinvolved or unable to disentangle themselves from the caregiver role, particularly in the absence of adequate social support (Hricik et al, 2011).

- Arrange for intervals of respite care for the caregiver; encourage use if available. **EB & EBN:** Respite care provides time away from the care situation and can help alleviate distress (Beeber, Thorpe, & Clipp, 2008; Sussman & Regehr, 2009).

- Regularly monitor social support for the caregiver and help the caregiver to identify and utilize appropriate support systems for varying times in the care situation. **EB:** Lower levels of perceived support can cause caregivers to feel abandoned and increase their distress (Hwang et al, 2011).

- Encourage the caregiver to grieve over changes in the care recipient’s condition and give the caregiver permission to share angry feelings in a safe environment. Refer to nursing interventions for Grieving. **EB:** Caregivers grieve the loss of personhood of their loved one, especially when dementia is involved (Holland, Currier, & Gallagher-Thompson, 2009; Kramer et al, 2011).

- Help the caregiver find personal time to meet his or her needs, learn stress management techniques, schedule regular health screenings, and schedule regular respite time. **EB:** Due to increased risk for poor physical health as a result of providing care, caregivers must feel empowered to maintain self-care activities (Merluzzi et al, 2011). Interventions to provide support for family caregivers have shown improvements in caregiver health (Elliot, Burgio, & Decoster, 2010).

- Encourage the caregiver to talk about feelings, concerns, uncertainties, and fears. Support groups can be used to gain mutual and educational support. **EB:** Support groups can improve depressive symptoms and burden, particularly for female caregivers (Chien et al, 2011). **EB:** Social support groups can be effective over the Internet, using forums such as Facebook (Bender, Jimenez-Marroquin, & Jadad, 2011).

- Observe for any evidence of caregiver or care recipient violence or abuse, particularly verbal abuse; if evidence is present, speak with the caregiver and care recipient separately. **EB & CEB:** Caregiver violence is possible, particularly when the caregiver has a history of behavioral, emotional, or family problems; screening should be done at regular intervals (Cohen et al, 2006; Cooper et al, 2009).

- Involve the family in care transitions; use a multidisciplinary team to provide medical and social services for instruction and planning. **EB:** Caregivers who reported involvement in discharge planning, particularly when discharge planning was done by an interdisciplinary team, occurs well before discharge, and includes good communication between the family member and the health care team, report better acceptance of the caregiving role and better health (Bauer et al, 2009).

- Encourage regular communication with the care recipient and with the health care team. **EB:** Caregivers’ preferential communication method and communication needs should be addressed at regular intervals to improve their sense of mastery over the care situation (Moore, 2008). There can be a large discrepancy between what the health care professional feels s/he has communicated and what the caregiver reports hearing (Molinaero, Hernandez & TRACE, 2011).

- Help caregiver assess his or her financial resources (services reimbursed by insurance, available support through community and religious organizations) and the impact of providing care on his or her financial status. **EB & EBN:** Low incomes and limited financial resources can cause strain for the caregiver, particularly if there are substantial out-of-pocket costs involved in providing care (Siefert et al, 2008). Prolonged
care situations can affect financial resources; assessment of financial distress/strain should occur at regular intervals. Caregivers report needing information regarding financial assistance during the care situation (Sinclair et al, 2010).

- Help the caregiver identify competing occupational demands and potential benefits to maintaining work as a way of providing normalcy. Guide caregivers to seek ways to maintain employment through mechanisms such as job sharing or decreasing hours at work. EB: Employed caregivers report that work can provide a sense of fulfillment, refuge, and satisfaction (Eldh & Carlsson, 2011).
- Help the caregiver problem solve to meet the care recipient’s needs. EBN: Using a psycho-educational or problem-solving intervention can decrease caregiver feelings of strain, although it has not been shown to help with caregivers’ depressive symptoms (Northouse et al, 2010).

Geriatric

- Monitor the caregiver for psychological distress and signs of depression, especially if caring for a mentally impaired elder or if there was an unsatisfactory marital relationship before caregiving. EBN: As the majority of family caregivers are spouses, degree of marital satisfaction is strongly linked with caregiver role strain (Green & King, 2011).
- Assess the health of caregivers, particularly their control over chronic diseases, at regular intervals. CEB: Caregivers who report feeling burdened have an increased risk of mortality, risk that may be particularly high in elderly caregivers with comorbid conditions (Beach et al, 2000; Schulz & Beach, 1999).
- Assess the presence of and use of social support and encourage the use of secondary caregivers with elderly caregivers. EBN: Caregivers are at risk for becoming overinvolved or unable to disentangle themselves from the caregiver role, particularly in the absence of adequate social support (Hricik et al, 2011).
- To improve the ability to provide safe care: provide skills training related to direct care, perform complex monitoring tasks, supervise and interpret client symptoms, assist with decision-making, assist with medication adherence, provide emotional support and comfort, and coordinate care. CEB: Each task demands different skills and knowledge, organizational capacities, role demands, and social and psychological strengths from family members (Schumacher et al, 2000).
- Teach symptom management techniques (assessment, potential causes, aggravating factors, potential alleviating factors, reassessment), particularly for fatigue, constipation, anorexia, and pain. EBN: Caregivers require training in care recipient monitoring symptom management, and interpretation and can benefit from a problem-solving approach (Sherwood et al, 2012).

Multicultural

- Assess for the influence of cultural beliefs, norms, and values on the client’s ability to modify health behavior. EBN: What the client considers normal and abnormal health behavior may be based on cultural perceptions (Giger & Davidhizar, 2008). EBN: Each client should be assessed for ability to modify health behavior based on the phenomenon of communication, time, space, social organization, environmental control, and biological variations (Giger & Davidhizar, 2008).
- Despite the importance of cultural differences in perceptions of caregiver role strain, there are certain characteristics that are distressing to caregivers across multiple cultures. EBN: Social support and care recipients’ behavioral difference have been shown to be an important factor in caregiver distress across multiple cultures (Chiao & Schepp, 2012; Hwang et al, 2011; Zahid & Ohaeri, 2010).
- Persons with different cultural backgrounds may not perceive the provision of care with equal degrees of distress. EB: A group of caregivers in Belize did not report providing care as negative, although they did exhibit physical symptoms of distress (Vroman & Morency, 2011).
- Recognize that cultures often play a role in identifying who will be recognized as a family caregiver and form partnerships with those groups. EB: In a study of American Indians, people who attended and participated in Native events and endorsed traditional healing practices were more likely to be caregivers. The study also reported that gender played a role in identifying caregivers in some tribes, but not all (Goins, 2011).
- Encourage spirituality as a source of support for coping. EBN: Many African Americans and Latinos identify spirituality, religiousness, prayer, and church-based approaches as coping resources. Socioeconomic status, geographical location, and risks associated with health-seeking behavior all influence the likelihood that clients will seek health care and modify health behavior (Giger & Davidhizar, 2008).
- Assess for the presence of conflicting values within the culture. EBN: Whereas sharing and caring is part of the Amish community, females with breast cancer were found to value privacy issues related to their body image and health status and to prefer this was shared in the closed community (Schwartz, 2008).
Recognize that different cultures value and use caregiving resources in different ways. **CEB:** When Korean and Caucasian American caregivers were compared, there was more family support in Korean caregivers while Caucasian Americans were more likely to use formal support (Kong, 2007).

### Home Care

- Assess the client and caregiver at every visit for quality of relationship, and for the quality of caring that exists. **EB:** Quality of the caregiver-care recipient relationship and the impact of the care situation on that relationship can be an important source of distress or support for the caregiver (Quinn, Clare, & Woods, 2009). Chronic illness, especially dementia, can represent a gradual and devastating loss of the marital relationship as it existed formerly. An understanding of the prior relationship is needed before the couple can be helped to anticipate continuing care needs or deterioration, as the dyadic relationship can be expected to change over the care situation (Langer et al, 2010).

- Assess preexisting strengths and weaknesses the caregiver brings to the situation, as well as current responses, depression, and fatigue levels. **EB & EBN:** Caregivers’ personality type, mastery, self-efficacy, optimism, and social support have all been linked to the amount of distress the caregiver will perceive as a result of providing care (Campbell et al, 2008; Shirai et al, 2009).

- **▲** Refer the client to home health aide services for assistance with ADLs and light housekeeping. Allow the caregiver to gain confidence in the respite provider. **Home health aide services can provide physical relief and respite for the caregiver.** **EB:** Caregiver burden increases as the care recipient’s cognitive and functional ability decline (Ricci et al, 2009).

### Client/Family Teaching and Discharge Planning

- Identify client and caregiver factors that necessitate the use of formal home care services, that may affect provision of care, or that need to be addressed before the client can be safely discharged from home care. **EBN:** Although home care resources can be useful in decreasing caregiver distress, they are not used with regularity across client populations. Health care practitioners should assess for the need for support resources prior to discharge and at routine intervals throughout the care situation, tailoring community resources to individual caregiver needs (Greene et al, 2011). Interventions prior to discharge may include medication management, identification of medical red flags, identification of community-based resources, and specific caregiver concerns about home care (Hendrix et al, 2011).

- Collaborate with the caregiver and discuss the care needs of the client, disease processes, medications, and what to expect; use a variety of instructional techniques (e.g., explanations, demonstrations, visual aids) until the caregiver is able to express a degree of comfort with care delivery. **EB:** Knowledge and confidence are separate concepts. Self-assurance in caregiving will decrease the amount of distress the caregiver perceives as a result of providing care (Giovannetti et al, 2012) and may improve the quality of care provided.

- Assess family caregiving skill. The identification of caregiver difficulty with any of a core set of processes highlights areas for intervention. **CEB:** The ability to engage effectively and smoothly in nine processes has been identified as constituting family caregiving skill: monitoring client behavior, interpreting changes accurately, making decisions, taking action, making adjustment to care, accessing resources, providing hands-on care, working together with the ill person, and negotiating the health care system (Schumacher et al, 2000). **EB:** Caregiver skills training has been shown to improve caregiver knowledge and skills and may be reimbursable within governmental health care plans (Gitlin, Jacobs, & Earland, 2010).

- Discharge care should be individualized to specific caregiver needs and care situations. **EBN:** Interventions implemented by advanced practice nurses have been successful in preventing negative outcomes (Bradway et al, 2011).

- Assess the caregiver’s need for information such as information on symptom management, disease progression, specific skills, and available support. **EBN:** Caregiver interventions should be individualized to meet specific caregiver needs (Greene et al, 2011; Hendrix et al, 2011).

- Teach the caregiver warning signs for burnout, depression, and anxiety. Help them identify a resource in case they begin to feel overwhelmed.

- Teach the caregiver methods for managing disruptive behavioral symptoms if present. Refer to the care plan for **Chronic Confusion.** **CEB:** Multicomponent interventions can be particularly effective in caregivers of persons with neurologic sequelae (Pinquart & Sorenson, 2007).

- Teach the caregiver how to provide the care needed and put a plan in place for monitoring the care provided.

- Provide ongoing support and evaluation of care skills as the care situation and care demands change.
provide information regarding the care recipient’s diagnosis, treatment regimen, and expected course of illness.

Refer to counseling or support groups to assist in adjusting to the caregiver role and periodically evaluate not only the caregiver’s emotional response to care but the safety of the care delivered to the care recipient.

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Risk for Caregiver Role Strain

BettyAckley, MSN, EdS, RN

**NANDA-I**

**Definition**

At risk for caregiver vulnerability for felt difficulty in performing the family caregiver role

**Risk Factors**

Amount of caregiving tasks, care receiver exhibits bizarre behavior, care receiver exhibits deviant behavior, caregiver health impairment, caregiver is female, caregiver is spouse, caregiver isolation, caregiver not developmentally ready for caregiver role, caregiver’s competing role commitments, co-dependency, cognitive problems in care receiver, complexity of caregiving tasks, congenital defect, developmental delay of caregiver, developmental delay of care receiver, discharge of family member with significant home care needs, duration of caregiving required, family dysfunction before the caregiving situation, family isolation, illness severity of the care receiver, inadequate physical environment for providing care (e.g., housing, transportation, community services, equipment), inexperience with caregiving, instability in the care receiver’s health, lack of recreation for caregiver, lack of respite for caregiver, marginal caregiver’s coping patterns, marginal family adaptation, past history of poor relationship between caregiver and care receiver, premature birth, presence of abuse, presence of situational stressors that normally affect families (e.g., significant loss, disaster or crisis, economic vulnerability, major life events), presence of violence, psychological problems in caregiver, psychological problems in care receiver, substance abuse, unpredictable illness course

**NIC, Client Outcomes, Nursing Interventions, Client/Family Teaching, Rationales, and References**

Refer to care plan for Caregiver Role Strain.
Risk for ineffective Cerebral tissue perfusion

**NANDA-I**

**Definition**
Risk for decrease in cerebral tissue circulation

**Risk Factors**
Abnormal partial thromboplastin time; abnormal prothrombin time; akinetic left ventricular segment; aortic atherosclerosis; arterial dissection; atrial fibrillation; atrial myxoma; brain tumor; carotid stenosis; cerebral aneurysm; coagulopathy (e.g., sickle cell anemia); dilated cardiomyopathy; disseminated intravascular coagulation; embolism; head trauma; hypercholesterolemia; hypertension; infective endocarditis; left atrial appendage thrombosis; mechanical prosthetic valve; mitral stenosis; recent myocardial infarction; sick sinus syndrome; substance abuse; thrombolytic therapy; treatment-related side effects (cardiopulmonary bypass, medications); transient ischemic attack

**NOC** *(Nursing Outcomes Classification)*

**Suggested NOC Outcomes**
Acute Confusion Level, Tissue Perfusion: Cerebral, Agitation Level, Neurological Status, Cognition, Seizure Control, Motor Strength

**Example NOC Outcome with Indicators**

Tissue Perfusion: Cerebral as evidenced by the following indicators: Headache/Restlessness/Listlessness/Agitation/Vomiting/Fever/Impaired Cognition/Decreased level of consciousness/Motor weakness/Dysphagia/Slurred speech. (Rate the outcome and indicators of Tissue Perfusion: Cerebral: 1 = severe, 2 = substantial, 3 = moderate, 4 = mild, 5 = none [see Section I].)

**Client Outcomes**

**Client Will (Specify Time Frame):**
- State absence of headache
- Demonstrate appropriate orientation to person, place, time, and situation
- Demonstrate ability to follow simple commands
- Demonstrate equal bilateral motor strength
- Demonstrate adequate swallowing ability

**NIC** *(Nursing Interventions Classification)*

**Suggested NIC Interventions**
Medication Management, Neurologic Monitoring, Positioning: Neurologic, Cerebral Perfusion Promotion, Fall Prevention, Cognitive Stimulation, Environmental Management: Safety

**Example NIC Activities—Neurologic Monitoring**
Monitor pupillary size, shape, symmetry, and reactivity; Monitor level of consciousness; Monitor level of orientation; Monitor trend of Glasgow Coma Scale; Monitor facial symmetry; Note complaint of headache

**Nursing Interventions and Rationales**

▲ To decrease risk of reduced cerebral perfusion r/t stroke or transient ischemic attack:
- Obtain a family history of hypertension and stroke to identify persons who may be at increased risk of stroke. **EB:** A positive family history of stroke increases risk of stroke by approximately 30% (Goldstein et al, 2011).

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Monitor BP regularly, as hypertension is a major risk factor for both ischemic and hemorrhagic stroke. **EB:** Systolic BP should be treated to a goal of less than 140 mm Hg and diastolic BP to less than 90 mm Hg, while clients with diabetes or renal disease have a BP goal of less than 130/80 mm Hg (Goldstein et al, 2011).

Teach hypertensive clients the importance of taking their physician-ordered antihypertensive agent to prevent stroke. **EB:** Meta-analysis found thiazide diuretics, ACE inhibitors (ACEI), and calcium channel blockers (CCB) all reduced the risk of stroke compared with no treatment or placebo (Wright & Musini, 2009).

Stress smoking cessation at every encounter with clients, utilizing multimodal techniques to aid in quitting, such as counseling, nicotine replacement, and oral smoking cessation medications. **EB:** Epidemiological studies show a consistent and overwhelming relationship between smoking and both ischemic and hemorrhagic stroke (Goldstein et al, 2011).

Teach clients who experience a transient ischemic attack (TIA) that they are at increased risk for a stroke. **CEB:** Overall stroke risk in TIA patients is 5.2% at 7 days and 10.3% at 90 days (Giles & Rothwell, 2007; Johnson et al, 2007; Rothwell et al, 2007).

Teach clients with a history of acute coronary syndromes (unstable angina, non-STEMI [non-ST-elevation myocardial infarction], and STEMI [ST-elevation myocardial infarction]) that they are at risk for stroke. **CEB:** Cardiovascular disease and stroke have the same pathophysiology and therefore the same risk factors. The rate of stroke after a STEMI is markedly increased (Smith et al, 2006; Witt et al, 2005).

Screen clients 65 years of age and older for atrial fibrillation with pulse assessment. **EB:** Atrial fibrillation is associated with a fivefold increase in stroke. Systematic pulse assessment in primary care setting resulted in a 60% increase in the detection of atrial fibrillation (Goldstein et al, 2011).

Call 911 or activate the rapid response team of a hospital immediately in clients displaying the symptoms of stroke as determined by the Cincinnati Stroke Scale (F: facial drooping, A: arm drift on one side, S: speech slurred), being careful to note the time of symptom appearance. Additional symptoms of stroke include sudden numbness/weakness of face, arm or leg, especially on one side, sudden confusion, trouble speaking or understanding, sudden difficulty seeing in one or both eyes, sudden trouble walking, dizziness, loss of balance or coordination, or sudden severe headache (National Stroke Association, 2012). **CEB:** The Cincinnati Stroke Scale (derived from the NIH Stroke Scale) is used to identify patients having a stroke who may be candidates for thrombolytic therapy (Kothari et al, 1999). EMS activation results in faster physician assessment, computer tomography, and neurological evaluation, which facilitates administering thrombolytics to eligible stroke victims in the required 3-hour time period (Adams et al, 2007).

Use clinical practice guidelines for glycemic control and BP targets to guide the care of diabetic patients that have had a stroke or TIA. **CEB:** The American Stroke Association recommends that evidence-based guidelines be used in the care of diabetic clients. Good glycemic control has been associated with decreased incidence of strokes (Furie et al, 2011; Handelsman et al, 2011).

▲ To decrease risk of reduced cerebral perfusion pressure: Cerebral perfusion pressure = Mean arterial pressure − intracranial pressure (CPP = MAP − ICP): See care plan for Decreased Intracranial Adaptive Capacity.

Maintain euvolemia. **CEB:** Infusing intravenous fluids to sustain normal circulating volume helps maintain normal cerebral blood flow (Bullock, Chestnut, & Clifton, 2001).

Maintain head of bed flat or less than 30 degrees in acute stroke clients. **CEB:** Both mean blood flow velocity in the middle cerebral artery and CPP are increased with lowering head position from 30 degrees to 0 degrees in both ischemic and hemorrhagic stroke clients (Schwarz et al, 2002; Wojner-Alexandrov et al, 2005).

REFERENCES


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Ineffective Childbearing Process

Kimberly J. Johnson-Crisanti, MSN, CNM

Definition

Pregnancy and childbirth process and care of newborn that does not match the environmental context, norms, and expectations

Defining Characteristics

During Pregnancy

- Does not access support systems appropriately
- Does not report appropriate physical preparations
- Does not report appropriate prenatal lifestyle (e.g., diet, elimination, sleep, bodily movement, exercise, personal hygiene)
- Does not report availability of support systems
- Does not report managing unpleasant symptoms in pregnancy
- Does not report a realistic birth plan
- Does not seek necessary knowledge (e.g., of labor and delivery, newborn care)
- Failure to prepare necessary newborn care items
- Inconsistent prenatal health visits
- Lack of prenatal visits
- Lack of respect for unborn baby

During Labor and Delivery

- Does not demonstrate appropriate baby feeding techniques
- Does not demonstrate attachment behavior to the newborn baby
- Lacks proactivity during labor and delivery
- Does not report lifestyle (e.g., diet, elimination, sleep, bodily movement, personal hygiene) that is appropriate for the stage of labor
- Does not respond appropriately to onset of labor
- Does not report availability of support systems
- Does not access support systems appropriately

After Birth

- Does not demonstrate appropriate baby feeding techniques
- Does not demonstrate appropriate breast care
- Does not demonstrate attachment behavior to the baby
- Does not demonstrate basic baby care techniques
- Does not provide safe environment for the baby
- Does not report appropriate postpartum lifestyle (e.g., diet, elimination, sleep, bodily movement, personal hygiene)

Ineffective childbearing process

- Does not report availability of support systems
- Does not access support systems appropriately

Related Factors

- Deficient knowledge (e.g., of labor and delivery, newborn care)
- Domestic violence
- Inconsistent prenatal health visits
- Lack of appropriate role models for parenthood
- Lack of cognitive readiness for parenthood
- Lack of maternal confidence
- Lack of prenatal health visits
- Lack of a realistic birth plan
- Lack of sufficient support systems
- Maternal powerlessness
- Maternal psychological distress
- Suboptimal maternal nutrition
- Substance abuse
- Unsafe environment
- Unplanned pregnancy
- Unwanted pregnancy

NOC Nursing Outcomes Classification

Suggested NOC Outcomes

Fetal Status: Antepartum, Intrapartum, Maternal Status: Antepartum, Intrapartum, Depression Level, Family Resiliency, Knowledge: Substance Use Control, Social Support, Spiritual Support

Example NOC Outcomes with Indicators

Maternal Status: Antepartum as evidenced by the following indicators: Emotional attachment to fetus/Coping with discomforts of pregnancy/Mood lability/Has realistic birth plan/Has support system. (Rate each indicator of Maternal Status: Antepartum: 1 = severe deviation from normal range, 2 = substantial deviation from normal range, 3 = moderate deviation from normal range, 4 = mild deviation from normal range, 5 = no deviation from normal range [see Section 1].)

Client Outcomes

Client Will (Specify Time Frame):

Antepartum
- Obtain early prenatal care in the first trimester and maintain regular visits
- Obtain knowledge level needed for appropriate care of oneself during pregnancy including good nutrition and psychological health
- Understand the risks of substance abuse and resources available
- Feel empowered to seek social and spiritual support for emotional well-being during pregnancy
- Utilize support systems for labor and emotional support
- Develop a realistic birth plan taking into account any high risk pregnancy issues
- Be able to understand the labor and delivery process and comfort measures to manage labor pain

Postpartum
- Utilize a safe environment for self and infant
- Obtain knowledge to provide appropriate newborn care and postpartum care of self
- Obtain knowledge to develop appropriate bonding and parenting skills

NIC Nursing Interventions Classification

Suggested NIC Interventions

High-Risk Pregnancy Care, Intrapartal Care

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Example NIC Activities—High-Risk Pregnancy Care

Instruct patient on importance of receiving regular prenatal care and to follow plan of care by taking prescribed medications and following nutrition guidelines; Encourage identification of psychosocial/psychological issues and substance use and appropriate treatment and referrals as needed.

Nursing Interventions and Rationales

- Encourage early prenatal care and regular prenatal visits. EBN: A study compared outcomes of infants born to women who received Medicaid and prenatal care coordination (PNCC) services versus women who received Medicaid but did not receive PNCC. Women who received PNCC services resulted in fewer low-birth-weight infants, fewer preterm infants, and fewer infants transferred to the neonatal intensive care unit. PNCC is an effective strategy for preventing adverse birth outcomes (Van Dijk, Anderko, & Stetzer, 2011).

- Identify any high-risk factors that may require additional surveillance such as preterm labor, hypertensive disorders of pregnancy, diabetes, depression, other chronic medical conditions, presence of fetal anomalies, or other high-risk factors. EB: A Cochrane study found that early and regular prenatal care can improve maternal and fetal outcomes by screening for risk factors and providing appropriate intervention and referrals (Dowswell et al, 2010).

- Assess and screen for signs and symptoms of depression during pregnancy and in postpartum period including history of depression or postpartum depression, poor prenatal care, poor weight gain, hygiene issues, sleep problems, substance abuse, and preterm labor. If depression is present, refer for behavioral-cognitive counseling, and/or medication (postpartum period only). Both counseling and medication are considered relatively equal to help with depression. EB: Research demonstrates that early screening, treatment, and referral can improve pregnancy outcome by decreasing preterm labor, preterm birth, and low-birth-weight infants. Psychosocial support can improve bonding between mother and infant and allow the mother to appropriately care for infant (Yawn, 2011; Yonkers, Vigod & Ross, 2011).

- Observe for signs of alcohol use and counsel women to stop drinking during pregnancy. Give appropriate referral for treatment if needed. EB: Alcohol is teratogenic, and prenatal exposure may result in growth impairment, facial abnormalities, central nervous system and/or intellectual impairment, and behavioral disorders. Evidence suggests women’s past pregnancy, current drinking behavior, and attitude toward alcohol use in pregnancy were the strongest predictors of alcohol consumption in pregnancy (Barclay, 2011; Peadon et al 2011).

- Obtain a smoking history and counsel women to stop smoking for the safety of the baby. Give appropriate referral to smoking cessation program if needed. EB: Tobacco smoking in pregnancy remains one of the few preventable factors associated with complications in pregnancy, low birth weight, and preterm birth and has serious long-term health implications for women and babies. Smoking cessation treatment resulted in reduced low-birth-weight infants and decreased preterm births, and there was an increase in mean birth weight (Lumley et al, 2009).

- Monitor for substance abuse with recreational drugs. Refer to drug treatment program as needed. Refer opiate-dependent women to methadone clinics to improve maternal and fetal pregnancy outcomes. EB: Opiate-dependent women experience a sixfold increase in maternal obstetric complications and give birth to low-weight babies (Minozzi et al, 2008). The newborn may experience narcotic withdrawal (neonatal abstinence syndrome) have development problems, increased neonatal mortality, and a 74-fold increased risk of sudden infant death syndrome. Maintenance treatment with methadone provides a steady concentration of opiate in the pregnant woman’s blood preventing the adverse effects on the fetus of repeated withdrawals. Buprenorphine may also be prescribed. These treatments can reduce illicit drug use, improve compliance with obstetric care, and improve birth weight but are still associated with neonatal abstinence syndrome (Minozzi et al, 2008).

- Monitor for psychosocial issues including lack of social support system, loneliness, depression, lack of confidence, maternal powerlessness, domestic violence, and socioeconomic problems. EB: A study that compared psychosocial assessment versus routine care for pregnant women concluded that the providers who assessed psychosocial factors were more likely to identify psychosocial concerns, including family violence, and to rate the level of concern as high. In two trials, women identified they did not want to feel so alone, be judged, be misunderstood and they wanted to feel an increased sense of their own worth (Austin et al, 2008; Gentry et al, 2010; Small et al, 2011). Social support interventions can improve health. The use of doulas can provide assistance in addressing social-psychological issues and socioeconomic disparities.

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Monitor for signs of domestic violence. Refer to a community program for abused women that provides safe shelter as needed. **EB:** Fear about judgments about their capacity to provide appropriate care for their children often holds women back from disclosing depression and intimate partner violence. Psychological violence during pregnancy by an intimate partner is strongly associated with postnatal depression (Ludermir et al, 2010; Small et al, 2011).

- Provide antenatal education to increase the woman’s knowledge needed to make informed choices during pregnancy, labor, and birth and to promote a healthy lifestyle. **EB:** The use of doula and childbirth educators has been shown to reduce medical interventions and improve maternal and infant outcomes in women (Gentry et al, 2010). **CEB:** A Cochrane review found a lack of quality evidence concerning the effects of antenatal education (Gagnon & Sandall, 2007).

- Encourage expectant parents to prepare a realistic birth plan in order to prepare for the physical and emotional aspects of the birth process and to plan ahead for how they want various situations handled. **CEB:** A “Discussion Birth Plan” and a “Hospital Birth Plan” can be used to facilitate communication with the expectant parents, their care provider and the hospital staff for events that occur during labor and birth. Both plans can assist expectant parents to make educated and informed decisions (Kaufman, 2007).

- Encourage good nutritional intake during pregnancy to facilitate proper growth and development of the fetus. Women should consume an additional 300 calories per day during pregnancy and achieve a total weight gain of 25 to 30 lb. **EB:** Low plasma folate concentrations in pregnancy are associated with preterm birth. Preconceptual folate supplementation is associated with a 50% to 70% reduction in preterm birth. Studies revealed that there was little change in dietary patterns in pregnancy, which is of concern because women were not able to improve their overall diets in pregnancy (Bukowski et al, 2009; Crozier et al, 2009). **CEB:** A study of low and middle income countries showed that supplementation with multi-micronutrients showed a reduction in low birth weight and maternal anemia (Haider & Bhutta, 2006).

### Multicultural

- Provide depression screening for clients of all ethnicities. **EB:** Race and ethnicity are important risk factors for antenatal depression. A study found that non-Hispanic white women, black women, and Asian/Pacific Islander women had an increased risk for antenatal depression. The prevalence of antenatal depression was 15.3% in black women, 6.9% in Latinos, and 3.6% in non-Hispanic white women (Gavin et al, 2011).

- Provide obstetrical care that is culturally diverse to ensure a safe and satisfying childbearing experience. **EBN:** Nurses must acknowledge that the maternity health care system has a unique culture that may clash with the cultures of many of our clients. Women not accustomed to this culture of potential risk in prenatal care, childbirth, and neonatal care may be frightened, overwhelmed, or made to feel guilty if they are not willing to undergo some of the expected interventions (Lewallen, 2011).

### REFERENCES


Readiness for enhanced Childbearing Process  Gail B. Ladwig, MSN, RN

NANDA-I

Definition
A pattern of preparing for and maintaining a healthy pregnancy, childbirth process, and care of newborn that is sufficient for ensuring well-being and can be strengthened

Defining Characteristics

During Pregnancy
Attends regular prenatal health visits; demonstrates respect for unborn baby; prepares necessary newborn care items; reports appropriate physical preparations; reports appropriate prenatal lifestyle (e.g., nutrition, elimination, sleep, bodily movement, exercise, personal hygiene)

Reports availability of support systems; reports realistic birth plan; reports managing unpleasant symptoms in pregnancy; seeks necessary knowledge (e.g., of labor and delivery, newborn care)

During Labor and Delivery
Demonstrates attachment behavior to the newborn baby; is proactive during labor and delivery; reports lifestyle (e.g., diet, elimination, sleep, bodily movement, personal hygiene) that is appropriate for the stage of labor; responds appropriately to onset of labor; uses relaxation techniques appropriate for the stage of labor; utilizes support systems appropriately

After Birth
Demonstrates appropriate baby feeding techniques; demonstrates appropriate breast care; demonstrates attachment behavior to the baby; demonstrates basic baby care techniques; provides safe environment for the baby; reports appropriate postpartum lifestyle (e.g., diet, elimination, sleep, bodily movement, exercise, personal hygiene); utilizes support system appropriately

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes
Knowledge: Pregnancy, Knowledge: Infant Care, Knowledge: Postpartum Maternal Health

Example NOC Outcome with Indicators

Knowledge: Pregnancy as evidenced by client conveying understanding of the following indicators: Importance of frequent prenatal care/Importance of prenatal education/Benefits of regular exercise/Healthy nutritional practices/Anatomic and physiological changes with pregnancy/Psychological changes associated with pregnancy/Birthing options/Effective labor techniques/Signs and symptoms of labor. (Rate the outcome and indicators of Knowledge: Pregnancy: 1 = no knowledge, 2 = limited knowledge, 3 = moderate knowledge, 4 = substantial knowledge, 5 = extensive knowledge [see Section I].)

Client Outcomes

Client Will (Specify Time Frame):

During Pregnancy
• State importance of frequent prenatal care/education
• State knowledge of anatomic, physiological, psychological changes with pregnancy

= Independent  CEB = Classic Research  ▲ = Collaborative  EBN = Evidence-Based Nursing  EB = Evidence-Based
Readiness for enhanced childbearing process

- Report appropriate lifestyle choices prenatal: activity and exercise/healthy nutritional practices

**During Labor and Delivery**
- Report appropriate lifestyle choices during labor
- State knowledge of birthing options, signs and symptoms of labor, and effective labor techniques

**After Birth**
- Report appropriate lifestyle choices postpartum
- State normal physical sensations following delivery
- State knowledge of recommended nutrient intake, strategies to balance activity and rest, appropriate exercise, time frame for resumption of sexual activity, strategies to manage stress
- List strategies to bond with infant
- State knowledge of proper handling and positioning of infant/infant safety
- State knowledge of feeding technique and bathing of infant

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### NIC (Nursing Interventions Classification)

**Suggested NIC Interventions**

Prenatal Care, Intrapartal Care, Postpartal Care, Attachment Promotion, Infant Care: Newborn

<table>
<thead>
<tr>
<th>Example NIC Activities—Prenatal Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage prenatal class attendance; Discuss nutritional needs and concerns (e.g., balanced diet, folic acid, food safety, and supplements); Discuss activity level with patient (e.g., appropriate exercise, activities to avoid, and importance of rest); Discuss importance of participating in prenatal care throughout entire pregnancy while encouraging involvement of patient’s partner or other family member</td>
</tr>
</tbody>
</table>

### Nursing Interventions and Rationales

Refer to care plans Risk for impaired Attachment; Readiness for enhanced Breastfeeding; Readiness for enhanced family Coping; Readiness for enhanced Family Processes; Risk for disproportionate Growth; Readiness for enhanced Nutrition; Readiness for enhanced Parenting; Ineffective Role Performance

#### Prenatal Care

- Ensure that pregnant clients have an adequate diet and take multimicronutrient supplements during pregnancy. **EB:** Nutrition plays an important role in the growth and development of the fetus. Overall, the diet of pregnant women has been reported to be deficient in calories and micronutrients. Prenatal supplementation with multimicronutrients was associated with a significantly reduced risk of low-birth-weight infants and with improved birth weight (Shah et al, 2009).
- Encourage pregnant clients to include enriched cereal grain products in their diets. **EB:** The number of pregnancies affected by neural tube defects greatly decreased in the United States after the fortification of cereal grain products with folic acid was mandated (CDC, 2010).
- Assess smoking status of pregnant client and offer effective smoking-cessation interventions. **EB:** Smoking during pregnancy is associated with delivery of preterm infants, low infant birth weight, and increased infant mortality. After delivery, exposure to secondhand smoke can increase an infant’s risk for respiratory tract infections and for dying of sudden infant death syndrome (Tong et al, 2009). Prenatal smoking prevalence remains high in the United States. To reduce prenatal smoking prevalence, efforts should focus on delivering evidence-based cessation interventions to women who are most likely to smoke before pregnancy, younger non-Hispanic white, Alaska Native, and American Indian women, who were identified in this study (Tong et al, 2011).
- Assess for signs of depression and make appropriate referral: inadequate weight gain, underutilization of prenatal care, increased substance use, and premature birth. Past personal or family history of depression, single, poor health functioning, and alcohol use. **EB:** These signs occurring during pregnancy may be associated with depression treatment. Engagement is important, as untreated depression during pregnancy may have unfavorable outcomes for both women and children (Sexton et al, 2012).

#### Intrapartal Care

- Encourage psychosocial support during labor. **EB:** In this study at the University College Hospital Ibadan, Nigeria, women with anticipated vaginal delivery were recruited and randomized at the antenatal clinic. The
experimental group had companionship in addition to routine care throughout labor until 2 hours after delivery, while the controls had only routine care. The primary outcome measure was cesarean section rate. Women with companionship had better labor outcomes compared to those without (Morhason-Bello et al, 2009).

- Consider using aromatherapy during labor. **EB:** Aromatherapy has been used in childbirth to reduce anxiety and pain (Horowitz, 2011).
- Offer immersion bath during labor. **EBN:** The present findings of this study suggest that use of an immersion bath is a suitable alternative form of pain relief for women during labor (da Silva, de Oliveira, & Nobre, 2009).
- Provide massage and relaxation techniques during labor. **EB:** The findings in this study suggest that regular massage with relaxation techniques from late pregnancy to birth is an acceptable coping strategy for pain relief (Kimber et al, 2008).
- Offer the client in labor a light diet and water. **EB:** In this study consumption of a light diet during labor did not influence obstetric or neonatal outcomes in participants, nor did it increase the incidence of vomiting. Women who are allowed to eat in labor have similar lengths of labor and operative delivery rates to those allowed water only (O’Sullivan et al, 2009).

**Multicultural**

**Prenatal**

- Provide prenatal care for black and white clients. **EB:** Black-white disparities in infant mortality persist in the United States. In the years 2001 to 2004, Wisconsin had the highest black infant mortality rate (IMR) in the 40 states reporting. IMRs have declined in Wisconsin from 2002 to 2007 despite national trends. Preliminary information suggests contributing factors may include improvement in adequate medical care and prenatal care for all (CDC, 2009).
- Refer the client to a centering pregnancy group (8 to 10 women of similar gestational age receive group prenatal care after initial obstetrical visit) or group prenatal care. **EBN:** African-American women in group care had significantly fewer preterm births. Women in Centering Pregnancy groups were more likely to initiate breastfeeding, more ready for labor and birth and significantly more satisfied with their prenatal care (Klima, 2009). The majority of perinatal deaths occur in developing countries. In this article we describe the implementation and evaluation of group prenatal care in Iran. Birth weight was greater for the infants of women in group prenatal care compared with those in individual care. We have shown that group prenatal care has improved birth weight. Low birth weight (LBW), preterm birth, and perinatal death, although not significant, were lower in the intervention group (Jafari et al, 2010).

**Intrapartal**

- Consider the client’s culture when assisting in labor and delivery. **EB:** This study demonstrated the need for a culturally sensitive, reliable, and valid instrument to better understand the self-efficacy of childbirth as a basis for developing effective interventions to increase normal childbirth among Iranian pregnant women (Khorsandi et al, 2008).

**Postpartal**

- Provide health and nutrition education for Chinese women after childbirth. Provide information and guidance on contemporary postpartum practices and take away common misconceptions about traditional dietary and health behaviors (e.g., fruit and vegetables should be restricted because of cold nature). Encourage a balanced diet and discouraging unhealthy hygiene taboos. **EB:** “Sitting month” is the Chinese tradition for postpartum customs. Available studies indicate that some of the traditional postpartum practices are potentially harmful for women’s health. Chinese women are advised to follow a specific set of food choices and health care practices. For example, the puerperal women should stay inside and not go outdoors; all windows in the room should be sealed well to avoid wind. Bathing and hair washing should be restricted to prevent possible headache and body pain in later years. Foods such as fruits, vegetables, soybean products, and cold drinks that are considered “cold” should be avoided. In contrast, foods such as brown sugar, fish, chicken, and pig’s trotter, which are considered “hot,” should be encouraged. It is believed that if a woman does not observe these restrictions, she may suffer from poor health later in life. Several studies indicated that the incidences of postpartum health problems are high and these problems may have relation to traditional and unscientific dietary and behavior practices in the postpartum period. Available Chinese data also suggested that the incidences of constipation and hemorrhoids were associated with lack of exercise and a decreased intake of fruit and vegetables; the risk of oral problems was associated with no teethbrushing and excessive intake of sugar during the puerperium (Liu et al, 2009).

• = Independent  
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▲ = Collaborative  
EBN = Evidence-Based Nursing  
EB = Evidence-Based
• Health and nutrition education should include the Chinese family (particularly the relative who will be staying with the new mother) after the woman gives birth. **EB:** The results of this study found that increased nutrition and health care knowledge did not lead to parallel dietary and health behavior changes. This lack of change is attributed to the fact that in China, the tradition to support a newly delivered woman and her baby for the first month after childbirth at home is still common. Most of the women had an elder female of the family such as her mother or mother-in-law as the support person. The elder female who takes care of the women may have hindered the changes due to traditional beliefs. The main problematic aspect of the study was the education intervention subjects aimed directly to the study of women, yet “sitting month” was usually recognized as an important event in the family and the postpartum woman has been taken care by her mother or mother-in-law (Liu et al, 2009).

**Home Care**

**Prenatal**

▲ Involve pregnant drug users in drug treatment programs that include coordinated interventions in several areas: drug use, infectious diseases, mental health, personal and social welfare, and gynecological/obstetric care. **EB:** This literature search revealed that involving pregnant drug users in drug treatment is likely to decrease the chances of prenatal and perinatal complications related to drug use and to increase access to prenatal care. Timely medical intervention can effectively prevent vertical transmission of human immunodeficiency virus and hepatitis B virus, as well as certain other sexually transmitted diseases, and would allow newborns infected with hepatitis C virus during birth to receive immediate treatment (Gyarmathy et al, 2009).

**Postpartal**

• Provide video conferencing to support new parents. **EBN:** The findings of this study indicate that VC equipment may be helpful for parents discharged from the hospital early after childbirth (Lindberg, Christensson, & Ohring, 2009).

• Consider reflexology for postpartum women to improve sleep quality. **EBN:** In this RCT an intervention involving foot reflexology in the postnatal period significantly improved the quality of sleep in postpartum women (Liet al, 2011).

**Client/Family Teaching and Discharge Planning**

**Prenatal**

• Provide dietary and lifestyle counseling as part of prenatal care to pregnant women. **EB:** In this study an organized, consistent program of dietary and lifestyle counseling reduced weight gain in pregnancy (Asbee et al, 2009). Community-level interventions of improved perinatal care practices can bring about a reduction in maternal mortality (Kidney et al, 2009).

• Provide the following information in parenting classes, via DVD and Internet: support mechanisms, information and antenatal education, breastfeeding, practical baby care, and relationship changes. Include fathers in the parenting classes. **EB:** The men felt very involved with their partners’ pregnancy but excluded from antenatal appointments and antenatal classes, and by the literature that was available. Parents had been unaware of, and surprised at, the changes in the relationship with their partners. They would have liked more information on elements of parenting and baby care, relationship changes, and partners’ perspectives prior to becoming parents. Parents suggested that information be provided on a DVD (Deave, Johnson, & Ingram, 2008; St George & Fletcher, 2011).

• Provide group prenatal care to families in the military. **EBN:** Group PNC offers the potential for continuity of provider, which the women were concerned was lacking. It also offers community with other women. In the process, women gain knowledge and power as health care consumers (Kennedy et al, 2009).

**Postpartal**

• Encourage physical activity in postpartum women; provide telephone counseling, pedometers, referral to community PA resources, social support, email advice on PA/pedometer goals, and newsletters. **EB:** In this study these interventions were effective in increasing physical activity in postpartum women (Albright, Maddock, & Nigg, 2009).

• Teach mothers of young children principles of a healthy lifestyle: substitute high-fat foods with low-fat foods such as fruits and vegetables, increase physical activity, consider a community-based
self-management intervention to prevent weight gain. **EBN: Preventing weight gain rather than treating established obesity is an important economic and public health response to the rapidly increasing rates of obesity worldwide. In this study both a single health education session and interactive behavioral intervention resulted in a similar weight loss in the short term, although more participants in the interactive intervention lost or maintained weight. Self-monitoring appears to enhance weight loss when part of an intervention (Lombard et al, 2009).**

**REFERENCES**


Impaired comfort systems, maternal powerlessness, maternal psychological distress, suboptimal maternal nutrition, substance abuse, unplanned pregnancy, unwanted pregnancy

**NIC, NOC, Client Outcomes, Nursing Interventions, Client/Family Teaching, Rationales, and References**

Refer to care plan for Ineffective Childbearing Process.

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**Impaired Comfort**  
*Katharine Kolcaba, PhD, RN*

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**NANDA-I**

**Definition**

Perceived lack of ease, relief, and transcendence in physical, psychospiritual, environmental, and sociocultural dimensions

**Defining Characteristics**

Anxiety; crying; disturbed sleep pattern; fear; illness-related symptoms; inability to relax; insufficient resources (e.g., financial, social support); irritability; moaning; noxious environmental stimuli; reports being uncomfortable; reports being cold; reports being hot; reports distressing symptoms; reports hunger; reports itching; reports lack of ease or contentment in situation; restlessness

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**NOC** *(Nursing Outcomes Classification)*

**Suggested NOC Outcomes**

Client Satisfaction, Symptom Control, Comfort Status, Coping, Hope, Pain and/or Anxiety Management, Personal Well-Being, Spiritual Health

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**Example NOC Outcomes with Indicators**

**Comfort Status** as evidenced by the following indicators: Physical and psychological well-being/Symptom control/Enhanced comfort. (Rate the outcome and indicators of **Comfort Status**: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see Section I].)

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**Client Outcomes**

**Client Will (Specify Time Frame):**

- Provide evidence for improved comfort compared to baseline
- Identify strategies, with or without significant others, to improve and/or maintain acceptable comfort level
- Perform appropriate interventions, with or without significant others, as needed to improve and/or maintain acceptable comfort level
- Evaluate the effectiveness of strategies to maintain and/or reach an acceptable comfort level
- Maintain an acceptable level of comfort when possible

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**NIC** *(Nursing Interventions Classification)*

**Suggested NIC Interventions**

Calming Techniques, Massage, Healing Touch, Heat/Cold Application, Hope Inspiration, Humor, Meditation Facilitation, Music Therapy, Pain Management, Presence; Progressive Muscle Relaxation, Spiritual Growth Facilitation, Distraction

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**Example NIC Activities—Hope Inspiration**

*Assist the client/significant others to identify areas of hope in life; Help to expand spiritual self; Involve the client actively in own care*
Nursing Interventions and Rationales*

- Assess client’s current level of comfort. This is the first step in helping clients achieve improved comfort. Sources of assessment data to determine level of comfort can be subjective, objective, primary, or secondary (Kolcaba, 2012; Wilkinson & VanLeuven, 2007).
- Comfort is a holistic state under which pain management is included. Management of discomforts, however, can be better managed, and with fewer analgesics, by also addressing other comfort needs such as anxiety, insufficient information, social isolation, or financial difficulties. CEB: One randomized study (N = 53) found that female breast cancer clients undergoing radiation therapy rated their overall comfort as being greater than the sum of the hypothesized components of comfort, which provided evidence for the theory of the holistic nature of comfort (Kolcaba & Steiner, 2000, in Kolcaba, 2012).
- Assist clients to understand how to rate their current state of holistic comfort, utilizing institution’s preferred method of documentation. Documentation of comfort prenursing and postnursing interactions is essential to demonstrating the efficacy of nursing activities (Kolcaba, 2003; Kolcaba, Tilton, & Drouin, 2006, in Kolcaba, 2012).
- Enhance feelings of trust between the client and the health care provider. To attain the highest comfort level, clients must be able to trust their nurse (Kolcaba, 2003; Kolcaba et al, 2004). CEB: This randomized design (N = 31) demonstrated the importance of promoting open relationships with clients, which helps to acknowledge their individuality. Knowing the client/significant others is essential in the provision of optimum palliative and terminal care (Kolcaba et al, 2004, in Kolcaba, 2012).
- Manipulate the environment as necessary to improve comfort. CEB: In two experimental studies, the protocol included that all clients be asked about preferences for light, furnishings, body position, television settings, etc. (Kolcaba et al, 2004; Dowd et al, 2007, in Kolcaba, 2012).
- Encourage early mobilization and provide routine position changes to decrease physical discomforts associated with bed rest. CEB: An experimental study of 420 individuals following nonemergency cardiac catheterization found consistently lower scores for back discomfort with no increase in bleeding in the intervention group, when they were turned every hour (Chair et al, 2003). A review comparing the study by Chair et al found its results to be consistent with other studies that have found that backrest elevation, side lying, and early ambulation all improved comfort (Benson, 2004).
- Provide simple massage. CEB: Two experiments, one with 31 and one with 60 clients, demonstrated that hand massage was helpful for reducing discomfort and anxiety and promoting relaxation and sleep (Kolcaba et al, 2004; Kolcaba, Schirm, & Steiner, 2006).
- Provide healing touch, which is well-suited for clients who cannot tolerate more stimulating interventions such as simple massage. EBN: In an experiment (N = 58), college students experienced enhanced comfort immediately after healing touch, compared to their baseline comfort level (Dowd et al, 2007).
- Inform the client of options for control of discomfort such as meditation and guided imagery, and provide these interventions if appropriate. CEB: A study found that female breast cancer clients (N = 53) treated with guided imagery while undergoing radiation therapy had significant improvements in comfort compared with the control group (Kolcaba, 2003).
- Utilize empathy as a response to a client’s negative emotions. EBN: An evaluation interaction analysis found that an accurate empathic response to a client’s expressions of negative emotions can contribute to comfort (Eide, Sibbern, & Johannessen, 2011).
- Encourage clients to use relaxation techniques to reduce pain, anxiety, depression, and fatigue. EBN: In a systematic review of randomized controlled studies, it was found that relaxation training was effective for decreasing pain intensity, anxiety, depression, and fatigue in clients with chronic musculoskeletal pain (Persson et al, 2008).

Geriatric

- Utilize hand massage for elders because most respond well to touch and the provider’s presence. EBN: In an experiment (N = 60), the effects of hand massage on comfort of nursing home residents was found to be significant immediately after the massage compared to residents who did not receive hand massage (Kolcaba, Schirm, & Steiner, 2006, in Kolcaba, 2012).

*R In updating these comfort interventions, Dr. Kolcaba wishes to acknowledge the invaluable assistance of Katharine K. Mayer, RN, MSN, of University Hospitals of Cleveland and Kimberly N. Fiolliett-Vranic, MSN, RN, Coronary Care Unit, Cleveland Clinic Foundation.
Impaired comfort

- Discomfort from cold can be treated with warmed blankets. **EBN**: This study (N = 126) found significantly increased comfort and decreased anxiety in clients who used self-controlled warming gowns (Wagner, Byrne, & Kolcaba, 2006).
- Use complementary touch therapies such as reflexology on clients with dementia to reduce pain and stress. **EBN**: In a study conducted on nursing home residents (N = 21), it was found that reflexology was an effective treatment of stress and observed pain in residents with mild to moderate dementia (Hodgson & Andersen, 2008).
- Acknowledge any unmet physical, psychological, emotional, spiritual, and environmental needs when attempting to understand the behavior of an elderly client with dementia. As caregivers, all possible causes for demented elderly clients’ behavior must be considered to maximize comfort (Gallaher & Long, 2011).
- Provide simple massage. **EBN**: A prospective study design (N = 52) found that providing massage to nursing home residents with dementia was effective in controlling agitation (Holliday-Welsh, Gessert, & Renier, 2009).

**Multicultural**

- Identify and clarify cultural language used to describe pain and other discomforts. **CEB**: Clients may interchange words meaning discomfort and pain, may refer to minor discomforts as pain, or may not discuss non-painful discomforts at all (Kolcaba, 2003).
- Assess skin for ashy or yellow-brown appearance. Black skin appears ashy and brown skin appears yellow-brown when clients have pallor sometimes associated with discomfort (Peters, 2007).
- Use soap sparingly if the skin is dry. Black skin tends to be dry, and soap will exacerbate this condition.
- Encourage and allow clients to practice their own cultural beliefs and recognize the impact different cultures have on a client’s belief about health care, suffering, and decision-making. Hindus believe in reincarnation, which gives them comfort during the dying process. Hindus also believe that physical suffering can lead to spiritual growth (Thrane, 2010).
- Assess for cultural and religious beliefs when providing care to clients. **EBN**: In a hermeneutic phenomenological study conducted in six medical-surgical wards in Iran (N = 22), it was found that family members play an important role in the comfort of the patient. It was also found that caregivers should allow patients to follow religious and traditional principles to facilitate comfort despite physical constraints (Yousefi et al, 2009).

**Client/Family Teaching and Discharge Planning**

- Teach techniques to use when the client is uncomfortable, including relaxation techniques, guided imagery, hypnosis, and music therapy. **EBN**: Interventions such as progressive muscle relaxation training, guided imagery, and music therapy can effectively decrease the perception of uncomfortable sensations, including pain (Kolcaba, 2003). **CEB & EBN**: Families want to learn how to provide comfort measures to their loved ones who are uncomfortable. (Kolcaba et al, 2004, in Kolcaba, 2012).
- Instruct the client and family on prescribed medications and therapies that improve comfort (Kolcaba, 2003).
- Teach the client to follow up with the physician or other practitioner if discomfort persists (Kolcaba, 2003).
- Encourage clients to utilize the Internet as a means of providing education to complement medical care for those who may be homebound or unable to attend face-to-face education. **EBN**: In a randomized trial with intervention (N = 41), it was found that the Internet was an effective mode for delivering self-care education to older clients with chronic pain (Berman et al, 2009).

**Mental Health**

- Encourage clients to use guided imagery techniques. **EBN**: A quasi-experimental design (N = 60) found that patients who listened to a guided imagery compact disk once a day for 10 days had improved comfort and decreased depression, anxiety, and stress over time (Apústolo & Kolcaba, 2009, in Kolcaba, 2012).
- Provide psychospiritual support and a comforting environment in order to enhance comfort. **EBN**: In a cross-sectional descriptive study (N = 98), it was found that cancer patients had lower comfort levels relating to psychospiritual and environmental comfort than to physical and sociocultural comfort. Improvements in psychospiritual and environmental support will enhance overall comfort (Kim & Kwon, 2007).
- Providing music and verbal relaxation therapy can reduce anxiety. **EBN**: A literature review found that music and verbal relaxation therapy provided reduced chemotherapy-induced anxiety (Lin et al, 2011).
- Caregivers should not hesitate to use humor when caring for their clients. **EBN**: Analysis of two studies found that humor can be comforting and can contribute to a positive experience for both patient and caregiver (Kinsman-Dean & Major, 2008).

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Suggested NOC Outcomes

Participation in Health Care Decisions, Spiritual Health

Client Will (Specify Time Frame):
- Assess current level of comfort as acceptable
- Express the need to achieve an enhanced level of comfort
- Identify strategies to enhance comfort

Client Satisfaction: Caring, Symptom Control, Comfort Status, Coping, Hope, Motivation, Pain Control, Participation in Health Care Decisions, Spiritual Health

Example NOC Outcomes with Indicators

**Comfort Status** as evidenced by the following indicators: Physical well-being/Symptom control/Psychological well-being. (Rate the outcome and indicators of Comfort Level: 1 = not at all satisfied, 2 = somewhat satisfied, 3 = moderately satisfied, 4 = very satisfied, 5 = completely satisfied.)

**REFERENCES**


- Perform appropriate interventions as needed for increased comfort
- Evaluate the effectiveness of interventions at regular intervals
- Maintain an enhanced level of comfort when possible

### NIC Interventions (Nursing Interventions Classification)

**Suggested NIC Interventions**

Calming Technique, Cutaneous Stimulation, Environmental Management, Comfort, Heat/Cold Application, Hope Inspiration, Humor, Meditation Facilitation, Music Therapy, Pain Management, Presence, Simple Guided Imagery, Simple Massage, Simple Relaxation Therapy, Spiritual Growth Facilitation, Therapeutic Play, Therapeutic Touch, Touch, Distraction

**Example NIC Activities—Spiritual Growth Facilitation**

Assist the patient with identifying barriers and attitudes that hinder growth or self-discovery; Assist the patient to explore beliefs as related to healing of the body, mind, and spirit; Model healthy relating and reasoning skills

### Nursing Interventions and Rationales

- **Assess client’s current level of comfort.** This is the first step in helping clients to achieve enhanced comfort. Sources of assessment data to determine level of comfort can be subjective, objective, primary, secondary, focused, or even special needs (Wilkinson & VanLeuven, 2007). While clinicians are assessing pain more frequently, this has not resulted in widespread pain reduction. A solution may be to establish comfort-function goals for clients, reminding clients to tell their nurse when pain interferes with function (Pasero & McCaffrey, 2004).

- **Help clients understand that enhanced comfort is a desirable, positive, and achievable goal.** CEB: Human beings strive to have their basic comfort needs met, but comfort is more than just the absence of pain (Kolcaba, 2003). Comfort is best recognized when a person leaves the state of discomfort and nurses can enhance their client’s comfort in everyday practice (Malinowski & Stamler, 2002).

- **Enhance feelings of trust between the client and the health care provider.** CEB: To attain the highest comfort level a client must be able to trust the nurse (Hupcey, Penrod, & Morse, 2000) EBN: Patients had greater feelings of emotional comfort when they felt secure, informed and valued (Williams, Dawson, & Kristjanson, 2009). EBN: Trust is an essential element in the nurse-patient relationship (Bell & Duffy, 2009).

- **Use therapeutic massage for enhancement of comfort.** CEB: This study determined the effects of hand massage on clients near the end of life, with clients reporting feeling special and that the massage felt good. Also, meaningful connectedness was achieved (Kolcaba et al, 2004). Massage is helpful for low back pain and other orthopedic problems (Dryden, Baskwill, & Preyde, 2004). EBN: Women who received massage in the latent labor period prior to delivery had less pain perception than women who did not (Yildirim & Sahin, 2004).

- **Teach and encourage use of guided imagery.** Guided imagery can be helpful on pain level, physical functional status, and self-efficacy on persons with fibromyalgia (Menzies, Taylor, & Bourguignon, 2006). Visual imagery with mind-body relaxation may be used for symptom control in Hispanic persons diagnosed with fibromyalgia (Menzies & Kim, 2008). EBN: Guided imagery was utilized in a study of psychiatric patients and was found to significantly improve their comfort level (Apustolo & Kolcaba, 2009). Guided imagery was used to relieve postoperative pain in elderly orthopedic patients.

- **Use of heat application to enhance pain relief.** EBN: Heat can be helpful with pain management of women with perineal pain during the second stage of labor; 79.9% of women identified relief of perineal pain with the use of warm packs during the second stage of labor. Eighty-five percent of these women found it so effective that they would use it during subsequent births (Dahlen et al, 2009).

- **Foster and instill hope in clients whenever possible.** EBN: This study was the first to document the effectiveness of a brief hope intervention. The intervention produced a significant effect on pain tolerance. The increase in pain tolerance was stronger for females than males (Berg, Snyder, & Hamilton, 2008). See the care plan for Hopelessness.

- **Provide opportunities for and enhance spiritual care activities.** The need for comfort and reassurance may be perceived as spiritual needs. To meet these needs, nurses engaged in interaction when they comforted and assured clients. Participants also identified absolution as a spiritual need, and there is evidence that forgiveness may bring one feelings of joy, peace, elation, and a sense of renewed self-worth (Narayanasomy et al, 2004).

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Individuals who practiced spiritual meditation were found to have a greater increase in pain tolerance (Wachholz & Pargament, 2008).

- Enhance social support and family involvement. **EBN:** Methods to help terminally ill clients and their families transition from cure to comfort care included spending an increased amount of time with one’s family, appointing one close friend to act as a contact person for other friends, and establishing an email list serve for updates of a client’s status and care (Duggleby & Berry, 2005).

- Encourage mind-body therapies such as meditation as an enhanced comfort activity. **EB:** The most common therapies used were meditation, imagery, and yoga. Research demonstrating the connection between the mind and body has therefore increased interest in the potential use of these therapies (Wolsko et al, 2004). **EBN:** Meditation has been shown to reduce anxiety, relieve pain, decrease depression, enhance mood and self-esteem, decrease stress, and generally improve clinical symptoms (Bonadonna, 2003). A review of clinical trials for meditation and massage used in end of life found that there was a significant relationship between meditation and pain reduction in the two studies that assessed pain (Lafferty et al, 2006).

- Promote participation in creative arts and activity programs. **EBN:** A creative arts program for caregivers of cancer clients was shown to lower anxiety, and positive emotions were expressed (Walsh, Martin, & Schmidt, 2004). The use of an individualized music protocol program by elderly women was shown to promote and maintain sleep (Johnson, 2003).

- Encourage clients to use health information technology (HIT) as needed. Client services can now include management of medications, symptoms, emotional support, health education, and health information (Moody, 2005). **EBN:** Injured car occupants experienced significantly lower dimensions of pain and discomfort with nursing intervention via telephone (Franzen et al, 2009).

- Evaluate the effectiveness of all interventions at regular intervals and adjust therapies as necessary. It is important for nurses to determine comfort and pain management goals because comfort goals will change with circumstances. Ask questions and ask them frequently, such as “How is your comfort?” Establish guidelines for frequency of assessment and document responses noting if goals are being met (Kolcaba, 2003). **EB:** A comprehensive palliative care project was conducted at 11 sites. The interdisciplinary review process built trust, endorsed creativity, and ultimately resulted in better meeting the needs of clients, families, and the community (London et al, 2005). Evaluation must be planned for, ongoing, and systematic. Evaluation demonstrates caring and responsibility on the part of the nurse (Wilkinson & VanLeuven, 2007).

- Explain all procedures, including sensations likely to be experienced during the procedure. **EBN:** Patients undergoing abdominal surgery in an experimental group received routine care and a preoperative nursing intervention which included explaining the causes of pain that would occur due to the operation, explaining the influences of postoperative pain and the importance of early out-of-bed activities, teaching how to reduce pain using nonpharmacological methods, encouraging requesting pain medications after surgery, encouraging expression of feelings and concerns, and setting a pain control goal. This group had a significant decrease in postoperative anxiety and a statistically significantly lower postoperative pain intensity 4 hours and 24 hours after the surgical procedure (Lin & Wang, 2004).

**Pediatric**

- Assess and evaluate child’s level of comfort at frequent intervals. **Comfort needs should be individually assessed and planned for.** With assessment of pain in children, it is best to use input from the parents or a primary care provider. Use only accepted scales for standardized pain assessment (Remke & Chrastek, 2007).

- Skin-to-skin contact (SSC) and selection of most effective method improves the comfort of newborns during routine blood draws. **EB:** Premature infants who received skin-to-skin contact demonstrated a decrease in pain reaction during heel lancing (Castral et al, 2008).

- Adjust the environment as needed to enhance comfort. **Environmental comfort measures include maintaining orderliness; quiet; minimizing furniture; special attention to temperature, light and sound, color, and landscape** (Kolcaba & DeMarco, 2005).

- Encourage parental presence whenever possible. The same basic principles for managing pain in adults and children apply to neonates. **In addition to other comfort measures, parental presence should be encouraged whenever possible** (Pasero, 2004). **EBN:** This study reported the effects of co-residence and caregiving on the parents of children dying with AIDS. Although parents who did more caregiving did experience anxiety, insomnia, and fatigue, the caregiving experiences for many parents gave them an opportunity to fulfill their perceived duty as parents before their child died. This in turn resulted in better physical and emotional health outcomes (Kespichayawattana & VanLandingham, 2003).

- = Independent  **CEB =** Classic Research  ▲ = Collaborative  **EBN =** Evidence-Based Nursing  **EB =** Evidence-Based
• Promote use of alternative comforting strategies such as positioning, presence, massage, spiritual care, music therapy, art therapy, and story-telling to enhance comfort when needed. In addition to oral sucrose, other comfort measures should be used to alleviate pain such as swaddling, skin-to-skin contact with mother, nursing, rocking, and holding (Pasero, 2004). EBN: Building on the belief that parents are the primary care providers and health care resource for families, the blended infant massage–parenting program is effective for both mother and infant (Porter & Porter, 2004). EBN: In this study, focus groups were conducted with Moroccan pediatric oncology nurses and physicians to better understand how pain management was achieved in children with cancer. When no medication was available to relieve pain, other techniques were used to comfort clients. These included use of cold therapy, presence, holding a child’s hand, utilizing distraction techniques, playing with them, story-telling, and encouraging parental engagement activities (McCarthy et al, 2004). EB: A study that examined the effects of music on pain in a pediatric burn unit during nursing procedures, the use of music during procedures reduced pain (Whitehead-Pleaux et al, 2007). EBN: A Talk and Touch intervention by the mothers of PICU infants found that 62 percent of the mothers felt that the intervention made a difference in the pain the infant experienced and 73 percent felt that talk and touch decreased their infant’s distress (Rennick et al, 2011).

Support child’s spirituality. CEB: Children are born with an intrinsic spiritual essence that can be enhanced. Spirituality promotes a sense of hope, comfort, and strength and creates a sense of being loved and nurtured by a higher power (Elkins & Cavendish, 2004).

Multicultural

• Identify cultural beliefs, values, lifestyles, practices, and problem-solving strategies when assessing clients. Cultural sensitivity must always be a component of pain assessment. The nurse must remember that pain expression will vary among clients and that variation must also be acknowledged within cultures (Andrews & Boyle, 2003). EBN: In a qualitative study that identified issues in pain management, cultural beliefs were cited as impediments or barriers to pain management; for example, some Moroccan physicians felt illness-related pain was inevitable, that suffering was normal, and that it had to be endured, especially by boys (McCarthy et al, 2004). EBN: In a qualitative study, Muslim patients, particularly Shiites, expressed feeling more comfortable when they were allowed to practice their religious beliefs (Yousefi et al, 2009).

• Enhance cultural knowledge by actively seeking out information regarding different cultural and ethnic groups. Cultural knowledge is the process of actively seeking information about different cultural and ethnic groups such as their world views, health conditions, health practices, use of home remedies or self-medication, barriers to health care, and risk-taking or health-seeking behaviors (Institute of Medicine, 2002).

• Recognize the impact of culture on communication styles and techniques. Communication and culture are closely intertwined, and communication is the way culture is transmitted and preserved. It influences how feelings are expressed, decisions are made, and what verbal and nonverbal expressions are acceptable. By the age of 5, cultural patterns of communication can be identified in children (Giger & Davidhizar, 2004).

• Provide culturally competent care to clients from different cultural groups. Cultural competency requires health care providers to act appropriately in the context of daily interactions with people who are different from themselves. Providers need to honor and respect the beliefs, interpersonal styles, attitudes, and behaviors of others. This level of cultural awareness requires providers to refrain from forming stereotypes and judgments based on one’s own cultural framework (Institute of Medicine, 2002). EBN: The findings from a review of two studies of Japanese and American women suggest that although there were common ethical concerns between the two cultures, the cultural context of the underlying values may create very different meanings and result in different nursing practices (Wros, Doutrich, & Izumi, 2004).

Home Care

• The nursing interventions described previously in Readiness for enhanced Comfort may be used with clients in the home care setting. When needed, adaptations can be made to meet the needs of specific clients, families, and communities.

Supportive referrals should have merit, be practical, timely, individualized, coordinated, and mutually agreed upon by all involved (Hunt, 2005).

Promote an interdisciplinary approach to home care. Members of the interdisciplinary team who provide specialized care to enhance comfort can include the physician, physical therapist, occupational therapist, nutritionist, music therapist, social worker, etc. (Stanhope & Lancaster, 2006).

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Readiness for enhanced comfort

- Evaluate regularly if enhanced comfort is attainable in the home care setting. Home health agencies monitor client outcomes closely. Evaluation is an ongoing process and is essential for the provision of quality care (Stanhope & Lancaster, 2006).

- Use music therapy at home. EBN: The use of music 30 minutes prior to peak agitation in dementia patients demonstrated that their mean pain levels after listening to music were significantly lower than before the music intervention (Park, 2010).

Client/Family Teaching and Discharge Planning

- Teach client how to regularly assess levels of comfort.

- Instruct client that a variety of interventions may be needed at any given time to enhance comfort.

- Help clients to understand that enhanced comfort is an achievable goal.

- Teach techniques to enhance comfort as needed.

- When needed, empower clients to seek out other health professionals as members of the interdisciplinary team to assist with comforting measures and techniques.

- Encourage self-care activities and continued self-evaluation of achieved comfort levels to ensure enhanced comfort will be maintained.

REFERENCES


Stanhope M, Lancaster J: Foundation of nursing in the community, ed 2, St. Louis, 2006, Mosby.
Readiness for enhanced Communication

Stacey M. Carroll, PhD, ANP-BC, and Suzanne White, MSN, RN, PHCNS-BC

NANDA-I

Definition

A pattern of exchanging information and ideas with others that is sufficient for meeting one’s needs and life’s goals and can be strengthened

Defining Characteristics

Able to speak a language; able to write a language; expresses feelings; expresses satisfaction with ability to share ideas with others; expresses satisfaction with ability to share information with others; expresses thoughts; expresses willingness to enhance communication; forms phrases; forms sentences; forms words; interprets nonverbal cues appropriately; uses nonverbal cues appropriately

NOC

(Nursing Outcomes Classification)

Suggested NOC Outcomes

Communication, Communication: Expressive, Receptive

Example NOC Outcome with Indicators

Communication as evidenced by the following indicators: Use of spoken language/Use of written language/Acknowledgment of messages received/Exchanges messages accurately with others. (Rate the outcome and indicators of Communication: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, mildly compromised, 5 = not compromised [see Section I].)

Client Outcomes

Client Will (Specify Time Frame):

• Express willingness to enhance communication
• Demonstrate ability to speak or write a language
• Form words, phrases, and language
• Express thoughts and feelings
• Use and interpret nonverbal cues appropriately
• Express satisfaction with ability to share information and ideas with others

NIC

(Nursing Interventions Classification)

Suggested NIC Interventions

Active Listening, Communication Enhancement: Hearing Deficit, Communication Enhancement: Speech Deficit

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Readiness for enhanced communication

Nursing Interventions and Rationales

- Establish a therapeutic nurse-client relationship: provide appropriate education for the client, demonstrate caring by being present to the client. **CEB:** Clients who were nonvocal and ventilated appreciated nursing care that was delivered in an individualized, caring manner (Carroll, 2007).
- Assess the client’s readiness to communicate, using an individualized approach. Avoid making assumptions regarding the client’s preferred communication method. **EBN:** Using varied communication approaches improved communication efficiency and client engagement (Radtke et al, 2011).
- Assess the client’s literacy level. Screening clients’ literacy levels upon assessment using REALM (Rapid Estimate of Adult Literacy in Medicine) allows providers to tailor information accordingly (Rajda & George, 2009).
- Listen attentively and provide a comfortable environment for communicating; use these practical guidelines to assist in communication: Slow down and listen to the client’s story; use augmentative and alternative communication methods (such as lip-reading, communication boards, writing, body language, and computer/electronic communication devices) as appropriate; repeat instructions if necessary; limit the amount of information given; have the client “teach back” to confirm understanding; avoid asking, “Do you understand?”; be respectful, caring, and sensitive. **EB:** Multiple augmentative and alternative communication methods, applied with an individualized and creative approach, aid in facilitating communication (Radtke et al, 2011).
- Provide communication with specialty nurses such as clinical nurse specialists or nurse practitioners who have knowledge about the client’s situation. **CEB:** Clients report being well informed and having high satisfaction with nurse practitioner communication (Hayes, 2007).
- Refer couples in maladjusted relationships for psychosocial intervention and social support to strengthen communication; consider nurse specialists. **EB:** Being part of a strong dyad may serve as a buffering factor regarding post-traumatic stress related to a cancer diagnosis (Brosseau, McDonald, & Stephen, 2011).
- Consider using music to enhance communication between client who is dying and his/her family. **EB:** In clients with communication difficulties, music therapy resulted in improvement in communication (Leow, Drury, & Hong, 2010).
- See care plan for Impaired verbal Communication.

Pediatric

- All individuals involved in the care and everyday life of children with learning difficulties need to have a collaborative approach to communication. **EB:** Effective collaborative implementation can meet a wide range of communication and learning needs (Greenstock & Wright, 2010).
- See care plan for Impaired verbal Communication.

Geriatric

- Assess for hearing and vision impairments and make appropriate referrals for hearing aids. **Healthy People 2020** encourages early identification of people with hearing and vision loss (Healthy People 2020, 2011).
- Use touch if culturally acceptable when communicating with older clients and their families. **EB:** Touch has a calming effect on a client who may be frightened due to difficulty with communication (Grossbach, Stranberg, & Chan, 2011).
- Consider singing during caregiving of clients with dementia. **EB:** When professional caregivers sang to clients with dementia during care, enhanced communication and cooperation resulted (Hammar et al, 2011).
- See care plan for Impaired verbal Communication.

Multicultural

- See care plan for Impaired verbal Communication.

Home Care

- The interventions described previously may be used in home care.
- See care plan for Impaired verbal Communication.

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Impaired verbal communication

Client/Family Teaching and Discharge Planning

- See care plan for Impaired verbal Communication.

REFERENCES

See Impaired verbal Communication for additional references.


Client Outcomes

**Client Will (Specify Time Frame):**
- Use effective communication techniques
- Use alternative methods of communication effectively
- Demonstrate congruency of verbal and nonverbal behavior
- Demonstrate understanding even if not able to speak
- Express desire for social interactions

### NIC (Nursing Interventions Classification)

#### Suggested NIC Interventions

Active Listening, Communication Enhancement: Hearing Deficit, Communication Enhancement: Speech Deficit

<table>
<thead>
<tr>
<th>Example NIC Activities—Communication Enhancement: Hearing Deficit</th>
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<tr>
<td>Listen attentively; Allow client adequate time to process communication and respond; Verify what was said or written using client’s response before continuing</td>
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### Nursing Interventions and Rationales

- Assess the language spoken, cultural considerations, literacy level, cognitive level, and use of glasses and/or hearing aids. *A comprehensive nursing assessment assists in understanding any communication difficulties (Patak et al, 2009).*
- Determine client’s own perception of communication difficulties and potential solutions when possible. **EB:** *The Communication Confidence Rating Scale for Aphasia* (CCRSA) *was found to be an effective tool for assessment of the self-report of communication confidence among clients with aphasia (Babbitt et al, 2011).*
- Involve a familiar person when attempting to communicate with a client who has difficulty with communication, if accepted by the client. **EB:** *Family members recognized clients’ cues and had a deeper understanding of clients’ needs (Dreyer & Nortvedt, 2008).*
- Listen carefully. Validate verbal and nonverbal expressions particularly when dealing with pain and utilize nonverbal scales for pain when appropriate. **EB:** *The revised nonverbal pain scale (NVPS) was found to be superior to the original NVPS in assessing pain in sedated clients receiving mechanical ventilation in the ICU (Kabes, Graves, & Norris, 2009).*
- Use therapeutic communication techniques: speak in a well-modulated voice, use simple communication, maintain eye contact at the client’s level, get the client’s attention before speaking, and show concern for the client. **EB:** *Effective communication between clients and health care professionals facilitates positive relations (Wain, Kneebone, & Billings, 2008).*
- Avoid ignoring the client with verbal impairment; be engaged and provide meaningful responses to client concerns. **EB:** *Meaningful responses and emotional support by nurses facilitated organized behavior and initiative in adults with communication impairments as a result of intellectual disabilities and autism (Bakken et al, 2008).*
- Use touch as appropriate. **EB:** *Touch has a calming effect on a client who may be frightened due to difficulty with communication (Grossbach, Stranberg, & Chan, 2011).*
- Use presence. Spend time with the client, allow time for responses, and make the call light readily available. **EB:** *Relationship-centered care involves the art of nursing, presence, and caring (Finfgeld-Connett, 2008).*
- Explain all health care procedures. **CEB:** *Clients who were nonvocal and ventilated were attuned to everything occurring around them, and they appreciated explanations from the nurse (Carroll, 2007).* **EB:** *Being understood was described as important by those who were ventilated (Laasko, Hartelius, & Idvell, 2009) and those who were deaf (Andrade et al, 2010).*
- Be persistent in deciphering what the client is saying, and do not pretend to understand when the message is unclear. **CEB:** *Persons who were nonvocal and ventilated appreciated persistence on the nurses’ part with respect to being understood, and found it bothersome when others pretended to understand them (Carroll, 2007).* **▲** *Utilize an individualized and creative multidisciplinary approach to augmentative and alternative communication assistance and other interventions. **EB:** *A combination of high-technology (with voice output) and low-technology options improved communication efficiency (Radke et al, 2011).* **EBN:** *A story-telling method may be used to facilitate communication.*

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Impaired verbal communication

- Use consistent nursing staffing for those with communication impairments. CEB: Consistent nursing care increased client-nurse communication and decreased client powerlessness (Carroll, 2007).
- Consult communication specialists as appropriate. Speech language pathologists, audiologists, and interpreters provide more comprehensive communication assistance for those with impaired communication (Patak et al, 2009). LRTs are proficient lipreaders who determine what a nonvocal client is mouthing and then verbalize the client’s words verbatim to others, in order to facilitate communication (Carroll, 2003; Grossbach, Stranberg, & Chan, 2011).
- When the client is having difficulty communicating, assess and refer for audiology consultation for hearing loss. Suspect hearing loss when:
  - Client frequently complains that people mumble, claims that others’ speech is not clear, or client hears only parts of conversations.
  - Client often asks people to repeat what they said.
  - Client’s friends or relatives state that client doesn’t seem to hear very well, or plays the television or radio too loudly.
  - Client does not laugh at jokes due to missing too much of the story.
  - Client needs to ask others about the details of a meeting that the client attended.
  - Client cannot hear the doorbell or the telephone.
  - Client finds it easier to understand others when facing them, especially in a noisy environment.
  - People with hearing loss do not hear sounds clearly. The loss may range from hearing speech sounds faintly or in a distorted way to profound deafness (American Academy of Audiology, 2011).
- When communicating with a client with a hearing loss:
  - Obtain client’s attention before speaking and face toward his or her unaffected side or better ear while allowing client to see speaker’s face at a reasonably close distance. Correct positioning increases the client’s awareness of the interaction and enhances the client’s ability to communicate (Alexander Graham Bell Association for the Deaf and Hard of Hearing, 2011).
  - Provide sufficient light and do not stand in front of window. Light illuminates the speaker’s face, making expressions and lip movements clearer. Standing in front of a window causes glare, which impedes the client’s ability to clearly see the speaker (Alexander Graham Bell Association for the Deaf and Hard of Hearing, 2011).
  - Remove masks if safe to do so, or use see-through masks and reduce background noise whenever possible. Information on see-through masks: www.amphl.org. EB: Noise reduction reduced listening effort, even in those who are hearing (Sarampalis et al, 2009).
  - Do not raise voice or overenunciate. This practice distorts the voice and lips, inhibiting effective lip-reading (Middleton et al, 2010).
  - Avoid making assumptions about the communication choice of those with hearing loss or voice impairments. EBN: After seeking client input, communication rounds or communication care plans can be completed (Happ et al, 2010).

### Pediatric

- Observe behavioral communication cues in infants. EB: Because they are preverbal, infants are completely reliant on a caregiver in their immediate environment to be sensitive and recognize their distress (Riddle & Racine, 2009).
- Identify and define at least two new forms of socially acceptable communication alternatives that may be used by children with significant disabilities. EB: Children with severe intellectual disabilities and little or no spoken language may benefit from the use of augmentative and alternative communication (AAC) strategies such as the use of graphic symbols (Stephenson, 2009). EB: If distal gestures can be elicited, students with limited symbolic and intentional communication may show more communication independence, choice making, and actions that affect daily routines (McLaughlin & Casella, 2008).
- Teach children with severe disabilities functional communication skills. EB: Students can develop functional communication skills if they are given intensive, consistent communication interventions and a mechanism for expressing themselves (Parker, Grimmett, & Summers, 2008).
- Refer children with primary speech and language delay/disorder for speech and language therapy interventions. EB: Speech and language therapy services often target resources toward parents in order to address issues of delay/difficulty in children that could impact on school learning (Burns & Radford, 2008). EB: The use of integrated treatment models that simultaneously target speech, phonological awareness, and reading is

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Geriatric

- Carefully assess all clients for hearing difficulty using an audiometer. Healthy People 2020 encourages early identification of people with hearing loss (Healthy People 2020, 2011).
- Avoid use of “elderspeak.” EB: Using elderspeak, a speech style similar to baby talk that fails to communicate appropriate respect, increases resistiveness to care in clients with dementia (Williams et al, 2009).
- Initiate communication with the client with dementia, and give client time to respond. The responsibility to use a creative approach and take the time to listen and understand clients who have dementia lies with the clinician (Jootun & McGhee, 2011).
- Encourage the client to wear hearing aids, if appropriate. EB: Hearing aid usage is low among older adults with hearing loss, despite the benefits of hearing aids (Golding et al, 2010; Gopinath et al, 2011). Older women with poor hearing acuity had poorer balance and higher risk of falls in addition to communication difficulties (Viljanen et al, 2009).
- Facilitate communication and reminiscing with memory boxes that contain objects, photographs, and writings that have meaning for the client. EB: Collage creation as a means of reminiscence facilitated the conveying of information by older adults with dementia who had difficulty communicating verbally (Stallings, 2010).
- Continue to find means to communicate even with those who are nonverbal. EB: Communication between those with advanced dementia and their caregivers was enhanced using Adaptive-Interaction, a system that recognizes nonverbal cues (Ellis & Astell, 2010).

Multicultural

- Nurses should become more sensitive to the meaning of a culture’s nonverbal communication modes, such as eye contact, facial expression, touching, and body language. EBN: All cultural groups have rules regarding patterns of social interaction. Culture influences not only the manner in which feelings are expressed, but also which verbal and nonverbal expressions of communication are considered appropriate (Ball, Bindler, & Cowen, 2010).
- Assess for the influence of cultural beliefs, norms, and values on the client’s communication process. EBN: The nurse must be aware of personal beliefs about communication and control personal reactions by a broadened understanding of the beliefs and behaviors of others (Giger & Davidhizar, 2008). EBN: Cultural imposition may result when a health care provider is unaware of another person’s beliefs and plans and implements care without taking into account the cultural beliefs of the client (Lewis et al, 2011).
- Assess personal space needs, acceptable communication styles, acceptable body language, interpretation of eye contact, perception of touch, and use of paraverbal modes when communicating with the client. EBN: Nurses need to consider multiple factors when interpreting verbal and nonverbal messages (Giger & Davidhizar, 2008).
- Assess for how language barriers contribute to health disparities among ethnic and racial minorities. EBN: Attending to linguistic differences is important not only because it can enhance the respectful treatment of typically vulnerable populations, but because it can help to prevent serious adverse outcomes (Carnevale et al, 2009). EBN: Communication difficulties are a major obstacle for immigrant clients and can lead to insufficient information and poor quality nursing care in contrast to the majority population (Jirwe, Gerrish, & Enami, 2010).
- Although touch is generally beneficial, there may be certain instances where it may not be advisable due to cultural considerations. CEB & EBN: Touch is largely culturally defined and conveys various meanings depending on the client’s culture (Leiminger & McFarland, 2002; Lewis et al, 2011).
- Modify and tailor the communication approach in keeping with the client’s particular culture. EBN: Along with having the knowledge, consideration, understanding, and respect for an individual, a tailoring or adaptation must take place in an attempt to meet one’s needs and demonstrate cultural sensitivity (Foronda et al, 2009).
- Use reminiscence therapy as a language intervention. EB: Issues of culture, language, and aging are challenging. Less engaged residents and clients who are nonverbal, immobile, or who have other occupational performance issues may become engaged in occupations of reminiscence that are rich in personal meaning and relevance (Hodges & Schmidt, 2009).
- The Office of Minority Health (OMH) of the U.S. Department of Health and Human Services (DHHS) standards on culturally and linguistically appropriate services (CLAS) in health care should be used as needed. EB: The recommended standards cover three broad areas of competence requirements for health care
Impaired verbal communication

for racial or ethnic minorities: (1) culturally competent care, (2) language access services, and (3) organizational support for cultural competence (CLAS, 2011).

Home Care

The interventions described previously may be adapted for home care use.

Client/Family Teaching and Discharge Planning

- Teach the client and family techniques to increase communication, including the use of communication devices and tactile touch. Incorporate multidisciplinary recommendations. EB: Recommendations by SLPs were omitted from discharge summaries at a high rate, placing clients at risk for lack of continuity of care (Kind et al, 2011).

- Refer the client to a speech-language pathologist (SLP) or audiologist. Audiological assessment quantifies and qualifies hearing in terms of the degree of hearing loss, the type of hearing loss, and the configuration of the hearing loss. Once a particular hearing loss has been identified, a treatment and management plan can be put into place by an SLP (Baumgartner, Bewyer, & Bruner, 2008).

REFERENCES


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Acute Confusion

Milo W. Grady, MSN, RN

NANDA-I

Definition

Abrupt onset of reversible disturbances of consciousness, attention, cognition, and perception that develop over a short period of time

Defining Characteristics

Fluctuation in cognition, level of consciousness, psychomotor activity; hallucinations; increased agitation; increased restlessness; lack of motivation to follow through with goal-directed behavior or purposeful behavior; lack of motivation to initiate goal-directed behavior or purposeful behavior; misperceptions

Related Factors (r/t)

Alcohol abuse; delirium; dementia; drug abuse, fluctuation in sleep-wake cycle, over 60 years of age, polypharmacy

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes

Cognition, Distorted Thought Self-Control, Information Processing, Memory

Example NOC Outcome with Indicators

Cognition as evidenced by the following indicators: Communication clear for age/Comprehension of the meaning of situations/Attentiveness/Concentration/Cognitive orientation. (Rate the outcome and indicators of Cognition: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see Section I].)

Client Outcomes

Client Will (Specify Time Frame):

• Demonstrate restoration of cognitive status to baseline
• Be oriented to time, place, and person
• Demonstrate appropriate motor behavior
• Maintain functional capacity

NIC (Nursing Interventions Classification)

Suggested NIC Interventions

Delirium Management, Delusion Management

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Nursing Interventions and Rationales

- Assess the client’s behavior and cognition systematically and continually throughout the day and night, as appropriate. Utilize a validated tool to assess presence of delirium such as the Confusion Assessment Method (CAM) or Delirium Observation Screening Scale. **EB:** The best evidence in a review of the literature supports the use of the CAM (Wong et al, 2010). Delirium is often underrecognized and undiéagnosed (O’Mahoney et al, 2011). **EBN:** Nurses are missing key symptoms of delirium; use of an objective instrument is essential in guiding assessment and documentation (Steis & Fick, 2008).

- Recognize that delirium may be superimposed on dementia; the nurse must be aware of the client’s baseline cognitive function. **EB:** Dementia increases the risk and severity of delirium (Voyer et al, 2011b).

- Recognize that there are three distinct types of delirium based on either arousal or motor disturbances (Breitbart & Alici, 2008):
  - Hyperactive: delirium characterized by restlessness, agitation, hypervigilance, hallucinations and delusions; may be combative
  - Hypoactive: delirium characterized by psychomotor retardation, lethargy, sedation, reduced awareness of surroundings and confusion
  - Mixture of both hyper- and hypodelirium: the client fluctuates between periods of hyperactivity and agitation and hypoactivity and sedation. **EB:** The hypoactive form of delirium was most often unrecognized by physicians in a study of clients in a mixed ICU (van Eijk et al, 2009). Many older adults in the emergency department present with the hypoactive subtype, which is missed the majority of the time (Han et al, 2009); these clients have worse outcomes (Flinn et al, 2009).

- Identify clients who are at high risk for delirium. **EB:** Predisposing factors leading to increased vulnerability for delirium include: cognitive impairment, severity of illness, older age, depression, vision and/or hearing impairment, and functional impairment (Sendelbach & Guthrie, 2009) and clients with advanced cancer (Bush & Bruera, et al, 2009), often due to the anticholinergic effects of opioids. Dementia increases the risk and severity of delirium (Voyer et al, 2011b). **EBN:** There was a significant reduction in delirium in hospitalized elders when a delirium prevention protocol was implemented (Robinson et al, 2008).

- Identify precipitating factors that may precede the development of delirium: use of restraints, indwelling bladder catheter, metabolic disturbances, polypharmacy, pain, infection, dehydration, constipation, electrolyte imbalances, immobility, general anesthesia, hospital admission for fractures or hip surgery, anticholinergic medications, anxiety, sleep deprivation, and environmental factors. **Prevention of delirium must be a high priority in light of frequency of occurrence, high treatment costs, longer hospital length of stay, higher rates of functional decline and institutional care, and higher mortality. Delirium may persist and may lead to long-term cognitive decline (O’Mahoney et al, 2011).** **EB:** Recognize that clients who are highly vulnerable for developing delirium require relatively fewer precipitating factors to develop delirium (Sendelbach & Guthrie, 2009). Clients who might benefit from a proactive geriatrics consultation include those over 65 or 70, with baseline cognitive dysfunction, multiple comorbidities, chronic use of psychotropic medications, drug or alcohol dependence, sensory impairment, immobility or functional decline, surgery, prolonged hospital stay, ICU stay, recurrent hospitalizations within the past year, and poor social support (Flinn et al, 2009).

- Perform an accurate mental status examination that includes the following:
  - Overall appearance, manner, and attitude
  - Behavior characteristics and level of psychomotor behavior (activity may be increased or decreased and may include spastic movements or tremors with delirium)
  - Mood and affect (may be paranoid or fearful with delirium; may have rapid mood swings)
  - Insight and judgment
  - Cognition as evidenced by level of consciousness, orientation to time, place, and person, thought process (thinking may be disorganized, distorted, fragmented, slow or accelerated with delirium), and content (perceptual disturbances such as visual, auditory or tactile delusions or hallucinations)
  - Level of attention (may be decreased with delirium; may be unable to focus, maintain attention or shift attention, or may be hypervigilant)
  - Memory (recent and immediate memory is impaired with delirium; unable to register new information)
  - Arousal (may fluctuate with delirium; sleep-wake cycle may be disturbed)

• = Independent ☑ = Classic Research ▲ = Collaborative EBN = Evidence-Based Nursing EB = Evidence-Based
Acute confusion

- Language (may have rapid, rambling, slurred, incoherent speech) (Breitbart & Alici, 2008; Sendelbach & Guthrie, 2009)

- Assess for and report possible physiological alterations (e.g., sepsis, hypoglycemia, hypoxia, hypotension, infection, changes in temperature, fluid and electrolyte imbalance, and use of medications with known cognitive and psychotropic side effects). Delirium is often unrecognized, inappropriately treated, or untreated, especially in terminally ill clients (Breitbart & Alici, 2008). **EB:** Avoid unnecessary catheterization; utilize infection control protocols to prevent infection, and maintain usual sleep schedule (O’Mahoney et al, 2011).

- Treat the underlying risk factors or the causes of delirium in collaboration with the health care team: establish/maintain normal fluid and electrolyte balance; normal body temperature, normal oxygenation (if the client experiences low oxygen saturation, deliver supplemental oxygen), normal blood glucose levels, normal blood pressure. **EB:** These factors are common contributors to delirium in the older adult (Flinn et al, 2009).

- Conduct a medication review and eliminate unnecessary medications. Medications that should be minimized or discontinued include anticholinergics, antihistamines, and benzodiazepines; cholinesterase inhibitors should be continued, as should carbidopa and levodopa for clients with parkinsonism (Flinn et al, 2009).

- Communicate client status, cognition, and behavioral manifestations to all necessary providers. **EB:** Careful monitoring is needed to identify the potential etiologic factors for delirium (Sendelbach & Guthrie, 2009).

- Identify, evaluate and treat pain quickly and adequately (see care plans for Acute Pain or Chronic Pain). Around the clock acetaminophen may result in less opioid use (Bourne, 2008). **EB:** There was an association between low doses of analgesia and the development of delirium in hospitalized clients experiencing pain (Robinson & Vollmer, 2010). Untreated pain is a potential cause of delirium, as is excessive opioid administration (Clegg & Young, 2011). Delirium can interfere with pain recognition (Breitbart & Alici, 2008).

- Promote regulation of bowel and bladder function. **EB:** Constipation may precipitate delirium (O’Mahoney et al, 2011). Catheters should be removed by postoperative day 2 to decrease infection risk (Flinn et al, 2009); urinary retention may precipitate delirium (Waardenburg, 2008).

- Ensure adequate nutritional and fluid intake. Dehydration often precipitates delirium (Thomas et al, 2008). **EB:** BMI less than 20 is an important risk factor for the development of delirium in postoperative older adult hip fracture clients (Juliebo et al, 2009).

- Promote early mobilization and rehabilitation. **EB:** Impaired mobility is a risk factor for developing delirium (Brouquet et al, 2010).

- Promote continuity of care; avoid frequent changes in staff and surroundings. **EB:** Changes may contribute to feelings of disorientation and confusion (O’Mahoney et al, 2011).

- Plan care that allows for an appropriate sleep-wake cycle. Please refer to the care plan for Sleep deprivation. Both delirium and sleep deprivation are associated with disrupted neurotransmitters. It is sometimes difficult to tell which came first. It is known that benzodiazepines deplete melatonin in the body which is needed for normal sleep (Figueroa-Ramos et al, 2009). **EB:** Sleep deprivation may potentially be a modifiable risk factor for the development of delirium (Weinhouse et al, 2009).

- Facilitate appropriate sensory input by having clients use aids (e.g., glasses, hearing aids) as needed; check for impacted ear wax. Sensory impairment is a predisposing factor for the development of delirium (Voyer et al, 2009). **EBN:** Clients with hearing loss receive lower doses of pain medication and have a higher incidence of delirium (Robinson et al, 2008).

- Modulate sensory exposure and establish a calm environment. Environments with too much or too little stimulation may precipitate delirium; noise reduction, appropriate lighting based on time of day, reduced clutter, and quiet music are strategies that may impact delirium (Schreier, 2010).

- Provide reality orientation, including identifying self by name at each contact with the client, calling the client by their preferred name, using orientation techniques, providing familiar objects from home such as an afghan, providing clocks and calendars, and gently correcting misperceptions. Facilitate regular visits from family and friends. **EB:** Persons at risk for delirium should be provided clocks and calendars that are easily visible; family and friends may help with reorientation (O’Mahoney et al, 2011).

- Use gentle, caring communication; provide reassurance of safety; give simple explanations of procedures (Bourne, 2008). Clients with delirium often respond to caring even though they may not understand the verbal message.

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• Provide supportive nursing care, including meeting basic needs such as feeding, toileting, and hydration. Delirious clients are unable to care for themselves due to their confusion (Rubin et al, 2011).

▲ Recognize that delirium is frequently treated with an antipsychotic medication. Administer cautiously as ordered, if there is no other way to keep the client safe. Watch for side effects of the medications. Be aware of paradoxical effects and side effects such as extrapyramidal symptoms, agitation, sedation, and arrhythmias; these may exacerbate the delirium (Bourne, 2008). EB: Haloperidol is recommended as the first-line agent for delirium at the end of life (NCCN Clinical Practice Guidelines in Oncology, 2011); atypical antipsychotics such as risperidone, olanzapine, and quetiapine have been utilized with comparable response (Fong, Tulebaev, & Inouye, 2009).

**Critical Care**

• Recognize admission risk factors for delirium. EB: Risk factors related to ICU clients include daily alcohol use of greater than 3 units, living at home alone, smoking more than 10 cigarettes per day, and cognitive impairment; precipitating risk factors included more than three infusions, presence of an endotracheal tube or tracheotomy, internal medicine admission, and factors such as isolation, no visible daylight, and a lack of visitors (Van Rompaey et al, 2009).

• Monitor for delirium in each client in critical care daily. Utilize the Confusion Assessment Method for the ICU (CAM-ICU) or the Intensive Care Delirium Screening Checklist (ICDSC). Delirium is extremely common in critically ill clients (Sora, 2009) but often remains undiagnosed due to lack of assessment (Guenther et al, 2010) or because of the presence of hypoactive delirium (Girard, Pandharipande, & Ely, 2008). EB: The use of reliable, validated tools such as the CAM-ICU should be a routine part of daily critical care due to the underdetection of delirium and impact on morbidity (Spronk et al, 2009).

▲ Sedate critical care clients carefully; monitor sedation, analgesia, and delirium scores. EB: Sedatives and analgesics prescribed to improve patient-ventilator dyssynchrony and treat anxiety and pain may precipitate delirium (Banerjee, Girard, & Pandharipande, 2011). Individualized titration of sedation, analgesia, and delirium therapies, utilizing management protocols and initiating nonpharmacologic measures are associated with improved outcomes (Skrobik et al, 2010).

• Awaken the client daily. This has been associated with decreased incidence of ventilator-associated pneumonia; also monitoring the client for continued need for intubation is needed since intubation itself is associated with increased incidence of delirium. NOTE: A sedation vacation may not be appropriate for all clients, such as those receiving neuromuscular blockade (Bourne, 2008). EB: Benzodiazepines increase the risk of delirium in a dose-dependent manner (Pandharipande et al, 2008).

• Bundle awakening and breathing coordination, choosing the appropriate sedative, monitoring for delirium, and promotion of exercise and early mobility. EB: Bundling these activities was found to improve functional and cognitive outcomes for critically ill clients (Banerjee, Girard, & Pandharipande, 2011).

• Initiate mobilization, physical therapy, and occupational therapy early in the ICU stay. EB: Clients who experienced daily interruption of sedation with early mobilization had more ventilator-free days and an improved functional status at discharge, as well as a 50% decrease in the duration of delirium (Schweikert et al, 2009).

• Encourage visits from families. EB: Clients in the intensive care who did not receive visits were at greater risk of developing delirium (Van Rompaey et al, 2009).

**Geriatric**

• Assess older adults upon hospital admission and routinely for risk factors, precipitating factors, and the presence of delirium. Predisposing factors include advanced age, sensory impairment, functional impairment, dementia, malnutrition, dehydration and previous history of depression. EBN: Older adults who undergo cardiac surgery are at an increased risk for developing delirium (Koster et al, 2011). CEB: Delirium affects one third of hospitalized older adults (Inouye, 2006) and is the most prevalent complication in hospitalized older adults (Young & Inouye, 2007).

• Avoid the use of restraints. EBN: In a study of long-term care residents with dementia, the use of physical restraints was the factor most associated with delirium; initiate alternative interventions (Voyer et al, 2011a).

▲ Evaluate all medications for potential to cause or exacerbate delirium. Review the Beers Criteria for Potentially Inappropriate Medication Use in Elderly. Elderly are very prone to medication side effects that can include confusion; drug interactions contribute to the development of delirium (Flinn et al, 2009). EB: Avoid or reduce benzodiazepines; prescribe with caution opioids, dihydropyridines, and antihistamine H1 antagonists (Clegg & Young, 2011).

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- Establish or maintain elimination patterns of urination and defecation. **EB & EBN:** Urinary retention or a urinary tract infection resulting in urosepsis, as well as constipation, may lead to delirium in the elderly (Faenza, Zhang, & Yin, 2008; Waardenburg, 2008).

- Determine if the client is nourished; watch for protein-calorie malnutrition. Consult with physician or diettitian as needed. **EBN:** A study found increased delirium in a group of extended care clients who had decreased body weight, possibly because of protein-binding from polypharmacy of medications (Culp & Cacchione, 2008).

- Explain hospital routines and procedures slowly and in simple terms; repeat information as necessary.

- Provide continuity of care when possible, avoid room changes, and encourage visits from family members or significant others. **EB:** Frequent changes may contribute to confusion (O’Mahoney et al, 2011).

- If clients know that they are not thinking clearly, acknowledge the concern. **EB:** Fear is frequently experienced by people with delirium. **EB:** Confusion is frightening; the memory of the delirium can be moderately to severely distressing (Bruea et al, 2009).

- Keep the client’s sleep-wake cycle as normal as possible (e.g., avoid letting the client take daytime naps, avoid waking the client at night, give sedatives but not diuretics at bedtime, provide pain relief and back rubs). The relationship between delirium and sleep deprivation is reciprocal (Figueroa-Ramos et al, 2009).

### Home Care

- Some of the interventions described previously may be adapted for home care use.

- Assess and monitor for acute changes in cognition and behavior. **EB:** An acute change in cognition and behavior is the classic presentation of delirium and should be considered a medical emergency (Bond, 2009).

- Delirium is reversible but can become chronic if untreated. The client may be discharged from the hospital to home care in a state of undiagnosed delirium. **EB:** Delirium may occur in approximately 20% of clients 6 months after hospital discharge (Cole et al, 2009).

- Avoid preconceptions about the source of acute confusion; assess each occurrence on the basis of available evidence.

- Institute case management of frail elderly clients to support continued independent living if possible once delirium has resolved.

### Client/Family Teaching and Discharge Planning

- Teach the family to recognize signs of early confusion and seek medical help.

- Counsel the client and family regarding the management of delirium and its sequelae. **EB:** Families experience a high degree of distress when observing a loved one in delirium (Arend & Christensen, 2009); the majority of clients with advanced cancer were able to remember their delirium episode which caused moderate to severe distress to themselves as well as to their family caregivers (Bruera et al, 2009). Families should be told that symptoms of delirium may persist for months; clients may need ongoing assistance (Cole et al, 2009).

### References


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Chronic confusion


Chronic Confusion

Mila W. Grady, MSN, RN

NANDA-I

Definition

Irreversible, long-standing, and/or progressive deterioration of intellect and personality characterized by decreased ability to interpret environmental stimuli; decreased capacity for intellectual thought processes; and manifested by disturbances of memory, orientation, and behavior

Defining Characteristics

Altered interpretation; altered personality; altered response to stimuli; clinical evidence of organic impairment; impaired long-term memory; impaired short-term memory; impaired socialization; long-standing cognitive impairment; no change in level of consciousness; progressive cognitive impairment

Related Factors (r/t)

Alzheimer’s disease; cerebrovascular attack; head injury; Korsakoff’s psychosis; multi-infarct dementia

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes

Cognition, Cognitive Orientation, Distorted Thought Self-Control

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**Example NOC Outcome with Indicators**

**Cognition** as evidenced by the following indicators: Cognitive orientation/Communicates clearly for age/Comprehends the meaning of situations/Attentiveness/Concentration. (Rate the outcome and indicators of **Cognition**: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see Section I].)

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**Client Outcomes**

**Client Will (Specify Time Frame):**

- Remain content and free from harm
- Function at maximal cognitive level
- Participate in activities of daily living at the maximum of functional ability
- Have minimal episodes of agitation (as agitation occurs in up to 70% of clients with dementia)

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**NIC** *(Nursing Interventions Classification)*

**Suggested NIC Interventions**

Dementia Management, Environmental Management, Surveillance: Safety

**Example NIC Activities—Dementia Management**

Use distraction rather than confrontation to manage behavior; Give one simple direction at a time

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**Nursing Interventions and Rationales**

- Determine the client’s cognitive level using a screening tool such as the Mini-Mental State Exam (MMSE), Mini-Cog (includes a three-item recall and clock drawing test), or Montreal Cognitive Assessment. Age, education, and literacy must be taken into account when interpreting results of the MMSE (Mitchell, 2009) as well as culture and ethnicity (Struble & Sullivan, 2011); an abnormal score necessitates further evaluation. For older adults with mild cognitive impairment, the Short Test of Mental Status and Montreal Cognitive Assessment are more sensitive diagnostic tools than the MMSE (Petersen, 2011). **EB:** The clock drawing test is useful for detecting moderate to severe dementia; its usefulness in detecting early cases of dementia is limited (Pinto & Peters, 2009).

▶ In clients who are complaining of memory loss, assess for depression, alcohol use, medication use, sleep, and nutrition. **These factors may be implicated in memory loss** (Struble & Sullivan, 2011).

▶ Recognize that pharmacological treatment to slow the progression of Alzheimer’s disease is most effective when used early in the course of the disease. The U.S. Food and Drug Administration has approved five drugs that slow the progression of symptoms for approximately 6 to 12 months; over 75 experimental therapies are being clinically tested in humans (Alzheimer’s Association, 2011).

- If hospitalized, gather information about the client’s pre-admission cognitive functioning, daily routines and care, and decision-making capacity. Establishing continuity of care lessens risk for hospitalized clients. **Informed consent may create a dilemma: decision-making capacity will vary depending on the degree of cognitive impairment** (Weitzel et al, 2011). **EBN & EB:** Individuals with a history of cognitive dysfunction are at higher risk for acute confusion during acute illness (Voyer et al, 2011a). **Clients with mild cognitive impairment may be able to make decisions regarding their care** (Okekwo et al, 2008).

- Assess the client for signs of depression: anxiety, sadness, irritability, agitation, somatic complaints, tension, loss of concentration, insomnia, poor appetite, apathy, flat affect, and withdrawn behavior. **EB:** Up to 95% of individuals with dementia have some neuropsychiatric problems (Gauthier et al, 2010), with the most common being apathy, depression, and anxiety; others include aggression, agitation, delusions, and hallucinations (Jalbert, Daiello, & Lapane, 2008). The Cornell Scale is a reliable and valid tool to assess for depression in dementia (Leontjevas, van Hooren, & Mulders, 2009). Approximately 20% of older adults may be affected by **significant depressive symptoms** (Thielke, Diehr, & Unutzer, 2010).

- Assess the client for anxiety if he or she reports worry regarding physical or cognitive health, reports feelings of being anxious, shortness of breath, dizziness, or exhibit behaviors such as restlessness, irritability, noise sensitivity, motor tension, fatigue, or sleep disturbances. The Rating Anxiety in Dementia (RAID) Scale may be utilized; this may require caregiver input. Recognize that anxiety is common in dementia, is often

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undiaagnosed, and may significantly impact quality of life. **CEB:** Symptoms of anxiety may progress to more challenging behaviors which negatively impact function and may contribute to discharge from assisted living to nursing home care (Aud, 2004). **CEB:** The RAID scale is a reliable and valid tool for identifying and measuring anxiety in dementia (Shankar et al, 1999).

▲ Recognize that clients with Alzheimer’s disease may experience apathy, anxiety and depression, psychomotor agitation, and psychotic or manic syndromes; nonpharmacological interventions for management should be attempted first. **EB:** More than 75% of clients with Alzheimer’s disease presented with one or more neuropsychiatric syndromes; therapeutic strategies must be planned accordingly (Spalletta et al, 2010). Best practice guidelines recommend psychological interventions as the first approach to treatment (Ballard et al, 2009). Medication for neuropsychiatric symptoms should be prescribed after nonpharmacological interventions have been tried and should be administered at the lowest possible dose and chosen with regard to side effects and adverse reactions (Gauthier et al, 2010).

• Determine client’s normal routines and attempt to maintain them. **CEB:** Activities that are designed to be consistent with past routines were effective at providing engagement and interest and enhancing quality of life (Cohen-Mansfield & Jensen, 2006).

• Obtain information about the client’s life history from the family; collaborate with family members to provide optimal care. **EBN:** Knowing the history, interests, needs, and preferences of the individual is essential to person-centered care and helpful when initiating conversation, activities, and routines; the family’s unique knowledge should be incorporated into the plan of care (Edvardsson, Fetherstonhaugh, & Nay, 2010).

• Begin each interaction with the client by gaining and maintaining eye contact, identifying yourself and calling the client by name. Approach the client with a caring, loving, and an accepting attitude, and speak calmly and slowly. **EB:** Dementia causes a loss of the ability to learn new things and remember people and places (episodic memory); clients will need reassurance and frequent reminding of the identity of caregivers (Yu et al, 2009).

• To enhance communication, use a calm approach, avoid distractions, show interest, keep communication simple, give clear choices, give the client time with word finding, use repetition and rephrasing, and utilize gestures, prompts, and cues or visual aids. Listen attentively to understand nonverbal messages, and engage in topics of interest to the client. **EB:** These communication techniques assist in focusing attention, incorporate nonverbal means of communication, simplify memory demands, compensate for cognitive slowing, and assist with retrieval and comprehension (Smith et al, 2011).

• Engage the client in scheduled activities that relate to past interests, experiences, and hobbies and are matched to current preferences and abilities. **EB:** Activities that were once meaningful to the client in terms of self-identity are more likely to result in engagement, even for those with severe cognitive impairment. Residents with current interests in art, music, and pets were more engaged in stimuli that reflected those current interests (Cohen-Mansfield et al, 2010a).

• Promote regular exercise. **EB:** Exercising regularly may significantly slow the rate of functional decline in individuals with Alzheimer’s disease (Litthbrand et al, 2009); a small study demonstrated that a specific walking program for individuals in the later stages of dementia can reduce functional and cognitive decline (Venterelli, Scarsini, & Schena, 2011).

• Provide opportunities for contact with nature or nature-based stimuli, such as facilitating time spent outdoors or indoor gardening. **EB:** Horticultural-based therapy programs provide positive engagement and may be beneficial for difficult to engage clients with dementia (Jarrott & Gigliotti, 2010). **EBN:** Individuals with dementia experience more barriers to experiencing nature, which may be an untapped source of pleasure for them (Bösen, 2010).

• Provide animal-assisted therapy. **EB:** This activity can successfully engage residents with dementia, promoting communication and social interaction regardless of the level of cognitive function (Marx et al, 2010). In a study of animal-assisted therapy with a group of clients with severe Alzheimer’s disease, animal-assisted therapy was associated with a decrease in sadness and anxiety and an increase in motor activity and positive emotions (Mosello et al, 2011).

• Break down self-care tasks into simple steps (e.g., instead of saying, “Take a shower,” say to the client, “Please follow me. Sit down on the bed. Take off your shoes. Now take off your socks.”). Utilize gestures when giving directions; allow for adequate time and model the desired action if needed or possible. **EB:** Assistance in focusing attention, modeling behavior, and using prompts and cues maximizes communication with individuals with dementia (Smith et al, 2011).

• Promote routines and facilitate success by keeping frequently used items in a visible and consistent location. Consistently practicing routines in an unchanged environment will assist the client in successful maintenance and performance of skills (Bourgeois & Hickey, 2009).

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• Use reminiscence and life review therapeutic interventions for clients in the early to middle stages of dementia; ask questions about the client’s past activities, important events and experiences from the past while utilizing photographs, videos, artifacts, music or newspaper clippings or multimedia technology to stimulate memories. **EB:** In a small preliminary study utilizing YouTube videos, it was found that reminiscence and life review may improve well-being and social engagement (O’Rourke et al, 2011). Memories from childhood or young adulthood are generally intact in the early and middle stages of Alzheimer’s (Smith et al, 2011).

• For clients in the middle to late stages of dementia, engage them in creative expression through the use of TimeSlips story-telling groups. **EB:** In a study of residents in long-term care settings who were involved in TimeSlips groups, the residents were more alert, socially engaged, had more interactions with staff and others, and staff had more positive views of residents than facilities without the TimeSlips groups (Fritsch, 2009).

• If the client is verbally agitated (repetitive verbalizations, complaints, moaning, muttering, threats, screaming), assess for and address unsatisfied basic needs or environmental factors that may be addressed. **EB:** Disruptive vocalizations may be an indication that the client with dementia has the need for comfort, attention, or more or less stimulation (Beedard et al, 2011). Behaviors are not solely due to cognitive impairment and may be due to an unmet need or environmental factors that may be overwhelming or understimulating (Gitlin et al, 2009).

• Utilize music as a nonpharmacological approach to managing anxiety. Identify music preferences of the client; interview family members if necessary. For anxious clients who are having problems relaxing enough to eat, try having them listen to music during meals. **EB:** Preferred music listening is an effective intervention to decrease anxiety in older adults with dementia (Sung, Chang, & Lee, 2010); utilizing percussion instruments with familiar music was found to be a cost effective method for decreasing anxiety and improving psychological well-being (Sung et al, 2012).

• Assist clients in wayfinding, monitoring them so that they do not get lost in unfamiliar settings. **EB:** Dementia and some related disorders cause impaired spatial learning; security measures should be unobtrusive, personal surroundings should include familiar objects, and facilities should be designed to have a home-like appearance (Fleming & Pandare, 2010).

• For clients who wander, utilize technologies that monitor but do not restrict. Direct the client who is wandering to a more soothing location with lower light levels and less variation in noise if necessary. **EB:** Motion detectors may improve quality of life by allowing clients to wander safely without restriction (Wigg, 2010). Modify the environment to reduce wandering if that is the therapeutic goal (Algase et al, 2010).

• Promote sleep by promoting daytime activity, creating a restful sleep environment, decreasing waking, and promoting quiet. **EB:** Sleep disorders are very common in those with dementia; individuals with Lewy body dementia experience disturbed sleep twice as often (Bliwise et al, 2011). Promoting a dark and quiet nighttime environment, a comfortable sleeping temperature for the client, encouraging physical activity, especially in the afternoon, maintaining a consistent schedule of meals and activities, maintaining a bright daytime environment, and facilitating outdoor activity are all methods of improving sleep (Neikrug & Ancoli-Israel, 2010).

• Provide structured social and physical activities that are individualized for the client. **EB:** Combined weekly live music and occupational therapy sessions resulted in an improvement in disruptive behavior and depressive symptoms in adults with dementia (Han et al, 2010).

• Provide activities for the client, such as folding washcloths and sorting or stacking activities or other hobbies the individual enjoyed prior to the onset of dementia. **EB:** The purposeful use of activities tailored to an individual’s abilities may allow the individual to maintain social roles and feelings of connectedness, express themselves in a positive way, enhance self-identity, reduce frustration, and prevent boredom, resulting in less agitation (Gitlin et al, 2009).

• Use cues, such as picture boards denoting day, time, and location, to help client with orientation. **EB:** Reality orientation, used not when clients are agitated, but as overall reminders of orientation, can help some clients remain more oriented (Yu et al, 2009).

▲ If the client becomes increasingly confused and/or agitated, perform the following steps:

■ Assess the client for physiological causes, including acute hypoxia, pain, medication effects, malnutrition, and infections such as urinary tract infection, fatigue, electrolyte disturbances, and constipation. **EB:** Dementia increases the risk and severity of delirium, which may be precipitated by several factors (Voyer et al, 2011b).

■ Assess for psychological causes, including changes in the environment, caregiver, routine, demands to perform beyond capacity, or multiple competing stimuli, including discomfort. **EB:** Agitated behaviors

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can be an expression of a need that is not being met (Kolanowski, Litaker, & Buettner, 2005; Kovach et al, 2005).

- In clients with agitated behaviors, rather than confronting the client, decrease stimuli in the environment or provide diversional activities such as quiet music, looking through a photo album, or providing the client with textured items to handle. **EB:** Music may reduce aggressive behaviors during bathing, reduce agitation at mealt ime or in general; structured activities that include manipulating, nurturing, sorting or using the tactile sense may reduce agitation (Cohen-Mansfield, Dakheel-Ali, & Marx, 2009).

- If clients with dementia become more agitated, assess for pain. **EBN:** Pain assessment should begin with eliciting a self-report using a valid and reliable tool. For the client with cognitive impairment, identify potential causes of pain, physiologic indicators, and assess behaviors that might indicate pain, elicit information from family or significant others regarding behaviors that are a change from baseline that could indicate pain, and initiate an analgesic trial if indicated (Pasero, 2009).

- Avoid using restraints if at all possible. **EB:** The use of trunk restraints is associated with higher fall risk for clients with dementia (Luo, Lin, & Castle, 2011).

- Use PRN or low-dose regular dosing of psychotropic or antianxiety drugs only as a last resort; start with the lowest possible dose. They can be effective in managing symptoms of psychosis and aggressive behavior, but have undesirable side effects. **EB:** Psychotropic medications can cause sedation, orthostatic hypotension and dizziness; use is associated with an increased risk of hospitalization from hip fracture (Jalbert et al, 2010).

- Avoid the use of anticholinergic medications such as diphenhydramine. Anticholinergic medications have a high side-effect profile that includes disorientation, urinary retention, and excessive drowsiness, especially in those with decreased cognition; the anticholinergic side effects outweigh the antihistaminic effects (Artero et al, 2008; Uusvaara et al, 2009).

- For predictable difficult times, such as during bathing and grooming, try the following:
  - Massage the client’s hands or back to relax the client. **EBN:** Hand and back massage have been shown to induce physiological and psychological relaxation (Harris & Richards, 2010).
  - Approach the client in a client-centered framework: utilize respectful, positive statements, give directions one step at a time, provide short and clear cues, utilize verbal praise for successful task completion. **EB:** Modifying activity demands on an individual basis will result in skill retention and maximum independence (Padilla, 2011).
  - Involve the family in care of the client. **EBN:** Establishing a partnership of shared responsibility, transparency, and trust is essential to family caregivers (Legault & Ducharme, 2009).

- For care of early dementia clients with primarily symptoms of memory loss, see the care plan for **Impaired Memory.**

- For clients nearing the end of life, consider a hospice referral. **EB:** Family members of individuals with dementia reported higher perceptions of the quality of care and quality of dying experience with hospice care (Teno et al, 2011).

- For care of clients with self-care deficits, see the appropriate care plan (Feeding Self-Care deficit; Dressing Self-Care deficit; and Toileting Self-Care deficit).

### Geriatric

**Note:** All interventions are appropriate with geriatric clients.

### Multicultural

- Assess for the influence of cultural beliefs, norms, and values on the family’s or caregiver’s understanding of chronic confusion or dementia. **EBN:** What the family considers normal and abnormal health behavior may be based on cultural perceptions (Giger & Davidhizar, 2008). Hispanic and Chinese caregivers were more likely to believe that Alzheimer’s can be diagnosed with a blood test and is a normal part of aging, which may delay seeking help with management (Gray et al, 2009). Korean American immigrants may have a strong stigma regarding the diagnosis of Alzheimer’s disease, may consider memory loss as part of the normal aging process, and lack knowledge regarding cause, diagnosis, and treatment (Lee, Lee, & Diwan, 2010).

- Inform the client’s family or caregiver of the meaning of and reasons for common behavior observed in clients with dementia. **EB:** An understanding of behavior will enable the client’s family or caregiver to provide the client with a safe environment. Disease expression may vary in different ethnoracial groups; Latinos were found in one study to have more depressive symptoms (Livney et al, 2011).

- Assist the family or caregiver in identifying barriers that would prevent the use of social services or other supportive services that could help reduce the impact of caregiving; refer to social services or other

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**Footnotes**

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supportive services. **EB:** Knowledge about the disease, common concerns, beliefs about risks and treatment have been identified as important areas to discuss in Alzheimer’s outreach efforts for racial and ethnic minorities (Connell et al, 2009). Barriers to services do exist; Hispanic individuals reported a longer history of memory loss at the time of referral. African Americans were 30% less likely to be prescribed cholinesterase inhibitors, and minority ethnic groups were less likely to receive 24-hour care or be enrolled in research trials (Cooper et al, 2010). Asian cultures have a great sense of respect and responsibility for older adults; interdependence is valued; coping strategies and strength from religion and spirituality should be supported (Lim et al, 2010).

### Home Care

**Note:** Keeping the client as independent as possible is important. Because community-based care is usually less structured than institutional care, in the home setting the goal of maintaining safety for the client takes on primary importance.

- The interventions described previously may be adapted for home care use.
- Provide information to the family and home care client regarding advance directives. **EB:** This is a legal requirement of the Consolidated Omnibus Budget Reconciliation Act (COBRA). Encouraging advance care planning, identifying goals for end-of-life care, and providing information to make treatment decisions in accordance with the client’s wishes are important interventions for health care providers (Black et al, 2009).
- Assess the client’s memory and executive function deficits before assuming the inability to make any medical decisions; driving capacity and financial capacity should be assessed for clients with mild cognitive impairment. **EB:** Decisional capacities for informed consent include: understanding and demonstrating comprehension of diagnosis and treatment-related information, appreciation of the significance of the information, reasoning regarding alternatives and consequences, and expressing a choice (Weitzel et al, 2011). **EB:** Clients with mild cognitive impairment should be proactive in engaging in financial and legal planning in light of the risk of developing dementia (Marson et al, 2009).
- Assess the home for safety features and client needs for assistive devices. Refer to the interventions for **Feeding Self-Care deficit, Dressing Self-Care deficit, Bathing Self-Care deficit** as needed.
- Promote cognitive stimulation (conversation, singing, dancing, creative activities, games) and memory training exercises for individuals in the early stages of dementia. **EB:** Cognitive training interventions may improve cognition, learning, memory, problem-solving abilities as well as ability to carry out ADLs; cognitive training is most effective when combined with medication (Yu et al, 2009).
- Provide education and support to the family regarding effective communication and ways to manage cognitive and behavioral changes; be prepared to offer support and information to family members who live at a distance as well. **EB:** Family members desired education regarding communication and management of behavioral changes (Rosa et al, 2010). Changes in symptoms and behavioral challenges were associated with higher caregiver burden and depression; psychosocial and pharmacologic interventions to manage neuropsychiatric symptoms may alleviate the suffering of the client and promote the well-being of the caregiver (Mohamed et al, 2010).
- Use familiar aspects of the environment (smells, music, foods, pictures) to cue the client, capitalizing on habit to remind the client of activities in which the client can participate. **EB:** While clients with dementia are probably unable to learn new activities because of deteriorated explicit memory, preserved implicit memory or habit may be useful in maximizing functional ability (Hong & Song, 2009).
- Instruct the caregiver to provide a balanced activity schedule that does not stress the client or deprive him or her of stimulation; avoid sustained low- or high-stimulation activity. **EB:** Planned, individualized structured activities can prevent agitation (Gitlin et al, 2009).
- Encourage the use of preferred music listening to evoke memories and promote relaxation. **EB:** In a small study of caregiver-administered music, caregivers and care recipients reported increased relaxation, comfort and happiness, with caregivers showing the most benefit, citing enjoyment in reminiscence and participation in musical activities with their loved ones (Hanser et al, 2011).

▲ If the client will require extensive supervision on an ongoing basis, evaluate the client for day care programs. Refer the family to medical social services to assist with this process if necessary. **EB:** Day care programs provide safe, structured care for the client and respite for the family, cost a great deal less than nursing home care, and provide stress relief and respite for the caregiver (Alzheimer’s Association, 2009). **EB:** Adult day care programs have been shown to reduce stress associated with work, leisure, and family needs (Schacke & Zank, 2006). For younger individuals with early onset dementia who are in the early stages, assisting staff with responsibilities in adult day care centers may promote self-esteem (Silverstein, Wong, & Brueck, 2010).

* = Independent  
**CEB** = Classic Research  
▲ = Collaborative  
**EBN** = Evidence-Based Nursing  
**EB** = Evidence-Based
• Encourage the family to include the client in family activities when possible. Reinforce the use of therapeutic communication guidelines (see Client/Family Teaching and Discharge Planning) and sensitivity to the number of people present. These steps help the client maintain dignity and lead to familial socialization of the client.

• Assess family caregivers for caregiver stress, loneliness, and depression. Caregivers experience physical and emotional health challenges, with $7.9 billion in additional health care costs in 2010 (Alzheimer’s Association, 2011). Anxiety, depression, exhaustion, and grief are common in caregivers of chronically ill family members (Hanser et al, 2011).

• Refer to the care plan for Caregiver Role Strain.

▲ Refer the client to medical social services as necessary to evaluate financial resources and initiate benefits or access to providers. EBN: Limited resources serve as barriers to effective use of community services (Beeber, Thorpe, & Clipp, 2008).

▲ Institute case management for frail elderly clients to support continued independent living.

Client/Family Teaching and Discharge Planning

• In the early stages of dementia, provide the caregiver with information on illness processes, needed care, available services, role changes, and the importance of advance directives discussion; facilitate family cohesion. EB: Provide information to caregivers gradually, introduce change slowly, facilitate legal changes, and provide continuous support to caregivers (Livingston, 2010).

• Teach the family how to converse with a memory-impaired person and strategies for handling challenging behaviors. EB: Educational needs of caregivers mainly relate to communication skills as well as management of difficult behaviors (Rosa et al, 2010).

• Teach the family how to provide physical care for the client (bathing, feeding, and ADLs) as well as coping strategies to deal with the burden of caregiving. EB: Interventions that improve competence in care and coping may lessen caregiver stress (Williams et al, 2010).

• Discuss with the family what to expect as the dementia progresses.

▲ Counsel the family about resources available regarding end-of-life decisions and legal concerns. EB: Family members report distress regarding decision making throughout the course of dementia, having insufficient information, lack of support in having these discussions with family members in the early stages of dementia, role conflict, maintaining the dignity of their family member, family conflict; supporting caregivers throughout the process and assisting them in advocacy is essential (Livingston et al, 2010).

▲ Inform the family that as dementia progresses, hospice care may be available in the home or nursing home in the terminal stages to help the caregiver. EB: 70% of individuals with dementia in the United States die in the nursing home (Fulton et al, 2011). Clients who have hospice are more likely to die in the location of their choice and have improved caregiver satisfaction (Shega et al, 2008).

NOTE: The nursing diagnoses Impaired Environmental Interpretation Syndrome and Chronic Confusion are very similar in definition and interventions. Impaired Environmental Interpretation Syndrome must be interpreted as a syndrome when other nursing diagnoses would also apply. Chronic Confusion may be interpreted as the human response to a situation or situations that require a level of cognition of which the individual is no longer capable.

REFERENCES


Chronic confusion


### Constipation


### Constipation

#### Definition

Decrease in normal frequency of defecation, accompanied by difficult or incomplete passage of stool and/or passage of excessively hard, dry stool

#### Risk Factors

Decreased mobility, decreased restraints, dementia, fluctuation in sleep-wake cycle, history of stroke, impaired cognition, infection, male gender, metabolic abnormalities: azotemia, decreased hemoglobin, dehydration, electrolyte imbalances, increased BUN/creatinine, malnutrition, over 60 years of age, pain, pharmaceutical agents: anesthesia, anticholinergics, diphenhydramine, multiple medications, opioids, psychoactive drugs, sensory deprivation, substance abuse, urinary retention

#### NIC, NOC, Client Outcomes, Nursing Interventions, Client/Family Teaching, Rationales, and References

Refer to care plan for Acute Confusion.

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### Risk for acute Confusion

**Betty Ackley, MSN, EdS, RN**

#### Definition

At risk for reversible disturbances of consciousness, attention, cognition, and perception that develop over a short period of time

#### Risk Factors

Decreased mobility, decreased restraints, dementia, fluctuation in sleep-wake cycle, history of stroke, impaired cognition, infection, male gender, metabolic abnormalities: azotemia, decreased hemoglobin, dehydration, electrolyte imbalances, increased BUN/creatinine, malnutrition, over 60 years of age, pain, pharmaceutical agents: anesthesia, anticholinergics, diphenhydramine, multiple medications, opioids, psychoactive drugs, sensory deprivation, substance abuse, urinary retention

#### NIC, NOC, Client Outcomes, Nursing Interventions, Client/Family Teaching, Rationales, and References

Refer to care plan for Acute Confusion.
Constipation

Defining Characteristics
Feeling of rectal fullness; feeling of rectal pressure; straining with defecation; unable to pass stool; abdominal pain; abdominal tenderness; anorexia; atypical presentations in older adults (e.g., change in mental status, urinary incontinence, unexplained falls, elevated body temperature); borborygmi; change in bowel pattern; decreased frequency; decreased volume of stool; distended abdomen; generalized fatigue; hard, formed stool; headache; hyperactive bowel sounds; hypoactive bowel sounds; increased abdominal pressure; indigestion; nausea; oozing liquid stool; palpable abdominal or rectal mass; percussed abdominal dullness; pain with defecation; severe flatus; vomiting

Related Factors (r/t)

Functional
Abdominal muscle weakness; habitual denial; habitual ignoring of urge to defecate; inadequate toileting (e.g., timeliness, positioning for defecation, privacy); irregular defecation habits; insufficient physical activity; recent environmental changes

Psychological
Depression, emotional stress, mental confusion

Pharmacological
Aluminum-containing antacids; anticholinergics, anticonvulsants; antidiarrheal agents, antidepressants, antilipemic agents, bismuth salts, calcium carbonate, calcium channel blockers, diuretics, iron salts, laxative overdose, nonsteroidal antiinflammatory drugs (NSAIDs), opioids, phenothiazines, sedatives, and sympathomimetics

Mechanical
Neurological impairment, electrolyte imbalance, hemorrhoids, Hirschsprung’s disease, obesity, postsurgical obstruction, pregnancy, prostate enlargement, rectal abscess, rectal anal fissures, rectal anal stricture, rectal prolapse, rectal ulcer, rectocele, tumors

Physiological
Change in eating patterns, change in usual foods, decreased motility of gastrointestinal tract, defecation disorder, dehydration, inadequate dentition, inadequate oral hygiene, insufficient fiber intake, insufficient fluid intake, poor eating habits

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes
Bowel Elimination, Hydration

Example NOC Outcome with Indicators

Bowel Elimination as evidenced by the following indicators: Elimination pattern/Stool soft and formed/Passage of stool without aids/Ease of stool passage. (Rate each indicator of Bowel Elimination: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see Section I].)

Client Outcomes

Client Will (Specify Time Frame):
- Maintain passage of soft, formed stool every 1 to 3 days without straining
- State relief from discomfort of constipation
- Identify measures that prevent or treat constipation

• = Independent  CEB = Classic Research  ▲ = Collaborative  EBN = Evidence-Based Nursing  EB = Evidence-Based
Suggested NIC Intervention

Constipation/Impaction Management

Example NIC Activities—Constipation/Impaction Management

- Identify factors (e.g., medications, bed rest, and diet) that may cause or contribute to constipation/impaction; institute a toileting schedule, as appropriate

Nursing Interventions and Rationales

- Assess usual pattern of defecation, including time of day, amount and frequency of stool, consistency of stool; history of bowel habits or laxative use; diet, including fiber and fluid intake; exercise patterns; personal remedies for constipation; obstetrical/gynecological history; surgeries; diseases that affect bowel motility; alterations in perianal sensation; present bowel regimen. **Individual bowel habits vary and clients with constipation experience a variety of symptoms (Spinzi et al, 2009).**

- Consider emotional influences (e.g., depression and anxiety) on defecation. Emotions influence gastrointestinal function, possibly because control of both emotions and gastrointestinal function is located in the limbic system of the brain. Difficulties with defecation often begin in childhood (e.g., during toilet training), and constipation is also associated with sexual and physical abuse, depression, and anxiety (Whitehead et al, 2009). **EBN: In a study, clients with functional constipation were compared to normal controls; subjects with functional constipation had significantly higher anxiety and depression scores (Zhou et al, 2010).**

- Have the client or family keep a 7-day diary of bowel habits, including information such as time of day; usual stimulus; consistency, amount, and frequency of stool; difficulty defecating; fluid consumption; and use of any aids to defecation. Health care providers define constipation mainly in terms of frequency, but those affected are more concerned about hard stool and discomfort and straining when attempting to defecate (Wald et al, 2008). **CEB: A diary of bowel habits is valuable in treatment of constipation; the use of a diary has proven to be more accurate than client recall in determining the presence of constipation (Andersen et al, 2006).**

- Use the Bristol Stool Scale to assess stool consistency. The Bristol Stool scale is widely used as a more objective measure to describe stool consistency (Tack et al, 2011).

  ▲ Review the client’s current medications. **EB: Many medications are associated with chronic constipation including opioids, anticholinergics, antidepressants, antihypertensives (e.g., clonidine, calcium channel blockers), antispasmodics, diuretics, anticonvulsants, and psychotropics (Eoff & Lembo, 2008; Spinzi et al, 2009).**

  ▲ If clients are suffering from constipation and are taking constipating medications, consult with the health care provider (with prescriptive powers) about the possibilities of decreasing the medication dosages or finding an alternative medication that is less constipating (Gallagher, O’Mahony, & Quigley, 2008). **▲**

  ▲ Recognize that opioids cause constipation. If the client is receiving temporary opioids (e.g., for acute postoperative pain), request an order for routine stool softeners from the primary care practitioner, monitor bowel movements, and request a laxative if the client develops constipation. If the client is receiving around-the-clock opiates (e.g., for palliative care), request an order for Senokot-S and institute a bowel regimen. **Opioids cause constipation because they decrease propulsive movement in the colon and enhance sphincter tone, making it difficult to defecate. Senokot-S is recommended to prevent constipation when opioids are given around the clock (Kyle, 2007). **EB: In a study of hip fracture clients who received opioids following surgery, clients who received prophylactic laxatives were less likely to develop constipation than those who did not (Davies et al, 2008).**

  ▲ If the client is terminally ill and is receiving around-the-clock opioids for palliative care, speak with the prescribing provider about ordering methylnaltrexone, a drug that blocks opioid effects on the gastrointestinal tract without interfering with analgesia. Methylnaltrexone is FDA approved for clients in palliative care when other laxatives are ineffective (Greenwood-Van Meerveld & Standifer, 2008). Methylnaltrexone does not replace, but is given in addition to, the usual laxative regimen (Kyle, 2009). **EB: In an RCT with subjects with opioid-induced constipation, a significantly greater percentage of those who received methylnaltrexone had a bowel movement within 4 hours (without other laxatives) than those who received placebo (Thomas et al, 2008). In a randomized study of clients who took opioids for chronic, nonmalignant pain, those...**
who received subcutaneous methylnaltrexone daily or every other day had significantly more bowel movements than subjects who received the placebo (Michna et al, 2011).

- If new onset of constipation, determine if the client has recently stopped smoking. Constipation is common, but usually transient, when people stop smoking (Wilcox et al, 2010). CEB: In a survey about perceived effects of various foods and beverages on constipation, cigarettes was the item that was most often perceived to have a laxative effect among smokers in all three groups (Müller-Lissner et al, 2005).

- Palpate for abdominal distention, percuss for dullness, and auscultate bowel sounds. In clients with constipation the abdomen is often distended and tender, and stool in the colon produces a dull percussion sound. Bowel sounds will be present.

▲ Check for impaction; if present, perform digital removal of stool per provider’s order. An impaction is hard stool that is too large to move through the sphincter and must be removed manually. Clients with neurogenic bowel dysfunction (e.g., spinal cord injury) commonly require manual evacuation of stool (Coggrave & Norton, 2009).

- Encourage fiber intake of 20 g/day (for adults) ensuring that the fiber is palatable to the individual and that fluid intake is adequate. Add fiber gradually to decrease bloating and flatus. Larger stools move through the colon faster than smaller stools, and dietary fiber make stools bigger because it is undigested in the upper intestinal tract. Fiber fermentation by bacteria in the colon produces gas. The effectiveness of water-insoluble fibers (e.g., wheat bran) on bowel function is well supported by research, and there is growing evidence that water-soluble fibers (e.g., psyllium) also promote laxation (Vuksan et al, 2008). CEB: The Nurses’ Health Study found that women with a median fiber intake of 20 g/day were less likely to experience constipation than those with a median intake of 7 g/day (Dukas, Willett, & Giovannucci, 2003). In a study of subjects receiving each of 5 treatments in a randomized design, the 5 treatments included: (1) bran cereal, (2) bran with corn cereal, (3) bran with psyllium cereal, (4) a cereal blend of 70% glucomannan and 30% xanthan, and (5) the low-fiber control diet. All four cereals produced significantly greater bowel movement than the low-fiber control diet and all were well tolerated (Vuksan et al, 2008). Researchers found that rye bread shortened intestinal transit time, softened the feces, and eased defecation of women with constipation, and that yogurt lessened the bloating and flatulence resulting from rye bread (Hongisto et al, 2006).

- Use a mixture of bran cereal, applesauce, and prune juice; begin administration in small amounts and gradually increase amount. Keep refrigerated. Always check with the primary care provider before initiating this intervention. It is important that the client also ingest sufficient fluids. CEB: This bran mixture has been shown to be effective even with short-term use in elderly clients recovering from acute conditions; however, it has not been tested with an RCT (Joanna Briggs Institute, 2008). NOTE: Giving fiber without sufficient fluid may result in worsening of constipation. Additional dietary fiber and bulk-forming laxatives are inappropriate for those who have difficulty ingesting adequate fluids, such as clients in palliative care (Kyle, 2007).

- Provide prune or prune juice daily. Each 100 g of prunes contain about 6 g of fiber, 15 g of sorbitol, and 184 mg of polyphenol; all have laxative effects (Attaluri et al, 2011). CEB: In a study about the perceived effects of various foods and beverages on stool consistency, over half of subjects surveyed reported that prunes had a softening effect on their stools (Müller-Lissner et al, 2005). In a randomized study, dried prunes produced significantly more complete spontaneous bowel movements (CSBMs) per week than psyllium, and both treatments produced significantly more CSBMs than at baseline (Attaluri et al, 2011).

- Encourage a fluid intake of 1.5 to 2 L/day (6 to 8 glasses of liquids per day), unless contraindicated because of other health concerns such as renal or heart disease. CEB: When dehydrated, the body absorbs additional water from stools, resulting in dry, hard stools that are difficult to pass (Sykes, 2006). Increasing fluid intake is not helpful if the person is already well hydrated.

▲ If the client is uncomfortable or in pain due to constipation or has acute or chronic constipation that does not respond to increased fiber, fluid, activity, and appropriate toileting, refer the client to the primary care provider for an evaluation of bowel function and health status. There can be multiple causes of constipation, such as endocrine disorders (e.g., hypothyroidism), depression, neurological conditions (e.g., multiple sclerosis and Parkinson’s disease), anorectal disorders, and Hirschsprung’s disease (Eoff & Lembo, 2008).

- Encourage clients to resume walking and activities of daily living as soon as possible if their mobility has been restricted. Encourage turning and changing positions in bed, lifting the hips off the bed, performing range-of-motion exercises, alternately lifting each knee to the chest, doing wheelchair lifts, doing waist twists, stretching the arms away from the body, and pulling in the abdomen while taking deep breaths. Bed rest and decreased mobility lead to constipation, but additional exercise does not help the constipated person who is already mobile. When the client has diminished mobility, even minimal activity increases
peristalsis, which is necessary to prevent constipation (Joanna Briggs Institute, 2008). CEB: Twelve weeks of physical activity significantly decreased symptoms of constipation and difficulty defecating in sedentary clients with chronic constipation, but transit time decreased only in subjects who had abnormally long transit time before starting the exercise program (DeSchryver et al, 2005). In a study of 192 hospitalized clients which included daily recording of activity levels, being bedridden for 2 to 3 weeks accounted for a sixfold increase in dissatisfaction with bowel emptying (Cardin et al, 2010).

- Ask clients when they normally have a bowel movement and assist them to the bathroom at that same time every day to establish regular elimination. An optimal time for many individuals is 30 minutes after breakfast because of the gastrocolic reflex (Godfrey & Rose, 2007). CEB: When clients followed a bowel program that included adequate hydration, dietary fiber and regular toileting, most resumed normal bowel elimination patterns without laxatives (Benton et al, 1997). When subjects who had suffered a stroke were randomly scheduled for morning or evening defecation, those defecating in the morning after breakfast returned to regular elimination patterns significantly faster. Subjects whose defecation was scheduled for the same time of day as their normal, pre-stroke patterns also resumed normal elimination patterns significantly faster (Venn, 1992).

- Provide privacy for defecation. If not contraindicated, help the client to the bathroom and close the door. Bowel elimination is a private act in Western cultures, and a lack of privacy can hinder the defecation urge, thus contributing to constipation (Kyle, 2011).

- Help clients onto a bedside commode or toilet so they can either squat or lean forward while sitting. Recognize that it is difficult to impossible to defecate in the lying supine position. Sitting upright allows gravity to aid defecation. CEB: A study of men found that flexing the hip to 90 degrees or more straightens the angle between the anuses and the rectum and pulls the anal canal open, to decrease the resistance to the movement of feces from the rectum and the amount of pressure needed to empty the rectum. Hip flexion is greatest when squatting or when leaning forward while sitting (Tagart, 1966). In a study involving volunteers, defecation required significantly less time and was significantly easier when squatting than when sitting (Sikirov, 2003). In another study, researchers found a significant decrease in the ability of subjects to defecate both a water-filled balloon and a silicone device in the lying position versus the sitting position (Rao, Kavolic, & Rao, 2006).

- Teach clients to respond promptly to the defecation urge. CEB: A study of male volunteers determined that the defecation urge can be delayed and that delaying defecation decreased bowel movement frequency, stool weight, and transit time (Klauser et al, 1990).

▲ Provide laxatives, suppositories, and enemas only as needed if other more natural interventions are not effective, and as ordered only; establish a client goal of eliminating their use. EB & CEB: Moderate evidence exists for the efficacy of lactulose, laxatives containing polyethylene glycol, and bulking agents (e.g., psyllium and bran) for the treatment of constipation in the elderly (Joanna Briggs Institute, 2008). Use of stimulant laxatives should be avoided because they result in laxative dependence and loss of normal bowel function. Laxatives (e.g., bisacodyl) and enemas also damage the surface epithelium of the colon (Schmelzer et al, 2004).

▲ When giving large volume enema solutions (e.g., soap-suds or tap-water enemas), measure the amount of fluid given and the amount expelled, especially when giving repeated enemas. Use a low concentration of Castile soap in the soap-suds enema. Enema fluid can be retained, and this retained fluid can be harmful for the client prone to fluid overload. CEB: In studies comparing the effectiveness of soap-suds enemas in pre-operative liver transplant clients (Schmelzer et al, 2000) and in healthy subjects (Schmelzer et al, 2004), the amount of enema solution given was often larger than the amount of returns, and some subjects retained large amounts of solution. Biopsies taken immediately after soap-suds and tap-water enemas demonstrated damage to the surface epithelium of the colon (Schmelzer et al, 2004).

Geriatric

- Assess older adults for the presence of factors that contribute to constipation, including dietary fiber and fluid intake (less than 1.5 L/day), physical activity, use of constipating medications, and diseases that are associated with constipation.

- Explain the importance of adequate fiber intake, fluid intake, activity, and established toileting routines to ensure soft, formed stool. EB: Strong evidence exists for the efficacy of adequate hydration and dietary fiber in the prevention of constipation in older adults; moderate evidence exists for the effectiveness of increased activity for those restricted to bed rest (Joanna Briggs Institute, 2008). In an RCT of elderly nursing home residents who were chronically ill and regularly used laxatives, those who received an additional 3.1 g of oat bran with their usual diets had significant reductions in laxative use when compared to those who did not (Sturtzel & Elmadfa, 2008). CEB: A study involving institutionalized elderly men with chronic constipation

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demonstrated that, with use of a bran mixture, clients were able to discontinue use of oral laxatives (Howard, West, & Ossip-Klein, 2000).

- Determine the client’s perception of normal bowel elimination and laxative use; promote adherence to a regular schedule. **EB:** In a survey in the United States, United Kingdom, Germany, France, Italy, Brazil, and South Korea, elderly subjects reported more constipation and used laxatives more often than younger subjects (Wald et al., 2008).

- Explain why straining (Valsalva maneuver) should be avoided. Excessive straining can cause syncope or cardiac dysrhythmias in susceptible people (Gallagher, O’Mahony, & Quigley, 2008).

- Respond quickly to the client’s call for assistance with toileting.

- Offer food, fluids, activity and toileting opportunities to elderly clients who are cognitively impaired. Even cognitively impaired individuals who are unable to initiate a request for food, fluids, and so forth may respond when opportunities are offered (Gallagher, O’Mahony, & Quigley, 2008). **EB:** In an RCT study involving nursing home residents, subjects who received the treatment protocol (offering of food, fluid, activity, and toileting opportunities) had significantly more bowel movements than the control group. Both cognitively intact and cognitively impaired subjects benefited from the treatment (Schnelle et al., 2010).

- Avoid regular use of enemas in the elderly. Enemas can cause fluid and electrolyte imbalances (Gallagher, O’Mahony, & Quigley, 2008) and damage to the colonic mucosa (Schmelzer et al., 2004). However, judicious enema use may help prevent impactions (Gallagher, O’Mahony, & Quigley, 2008).

- Position the client on the toilet or commode and place a small footstool under the feet. Placing a small footstool helps the client assume a squatting posture to facilitate defecation.

**Home Care**

- The interventions described previously may be adapted for home care use.

- Take complaints seriously and evaluate claims of constipation in a matter-of-fact manner. Continued constipation can lead to bowel obstruction, a medical emergency. Use of a matter-of-fact manner will limit positive reinforcement of the behavior if actual constipation does not exist. Refer to the care plan for **Perceived Constipation.**

- Assess the self-care management activities the client is already using. **CEB:** Many older adults seek solutions to constipation, with laxative use a frequent remedy that creates its own problems (Annells & Koch, 2002).

- The following treatment recommendations have been offered:
  - Acknowledge the client’s life-long experience of bowel function; respect beliefs, attitudes, and preferences, and avoid patronizing responses.
  - Make available comprehensive, useful written information about constipation and possible solutions.
  - Make available empathetic and accessible professional care to provide treatment and advice; a multidisciplinary approach (including physician, nurse, and pharmacist) should be used.
  - Institute a bowel management program.
  - Consider affordability when suggesting solutions to constipation; discuss cost-effective strategies.
  - Discuss a range of solutions to constipation and allow the client to choose the preferred options.
  - Have orders in place for a suppository and enema as the need may occur. **As part of a bowel management program, suppositories or enemas may become necessary.**

- Although the use of a bedside commode may be necessitated by the client’s condition, allow the client to use the toilet in the bathroom when possible and provide assistance. Bowel elimination is a very private act, and a lack of privacy can contribute to constipation.

- In older clients, routinely advise consumption of fluids, fruits, and vegetables as part of the diet, and ambulation if the client is able. Introduce a bowel management program at the first sign of constipation. **Constipation is a major problem for terminally ill or hospice clients, who may need very high doses of opioids for pain management** (Sykes, 2006).

- Refer for consideration of the use of polyethylene glycol 3350 (PEG-3350) for constipation. **CEB:** In a study of PEG-3350 use for idiopathic constipation, researchers concluded that it appeared to be safe and efficacious when dietary and lifestyle changes were ineffective. Clients reported increased perceived bowel control, with reduced complaints of straining, stool hardness, bloating, and gas (Stoltz et al., 2001). There is good evidence to support the use of PEG for chronic constipation (Ramkumar & Rao, 2005).

- Advise the client against attempting to remove impacted feces on his or her own. Older or confused clients in particular may attempt to remove feces and cause rectal damage.
When using a bowel program, establish a pattern that is very regular and allows the client to be part of the family unit. Regularity of the program promotes psychological and/or physiological readiness to evacuate stool. Families of home care clients often cannot proceed with normal daily activities until bowel programs are complete.

**Client/Family Teaching and Discharge Planning**

- Instruct the client on normal bowel function and the need for adequate fluid and fiber intake, activity, and a defined toileting pattern in a bowel program.
- Encourage the client to heed defecation warning signs and develop a regular schedule of defecation by using a stimulus such as a warm drink or prune juice. Most cases of constipation are mechanical and result from habitual neglect of impulses that signal the appropriate time for defecation.
- Encourage the client to avoid long-term use of laxatives and enemas and to gradually withdraw from their use if they are used regularly. Use of stimulant laxatives should be avoided; long-term use can result in dependence on laxative for defecation (Roerig et al., 2010).
- If not contraindicated, teach the client how to do bent-leg sit-ups to increase abdominal tone; also encourage the client to contract the abdominal muscles frequently throughout the day. Help the client develop a daily exercise program to increase peristalsis.

**REFERENCES**


Perceived Constipation  
Betty Ackley, MSN, EdS, RN, and Marilee Schmelzer, PhD, RN

NANDA-I

Definition
Self-diagnosis of constipation and abuse of laxatives, enemas, and suppositories to ensure a daily bowel movement

Defining Characteristics
Expectation of a daily bowel movement that results in overuse of laxatives, enemas, and suppositories; expectation of a passage of stool at same time every day

Related Factors (r/t)
Cultural or family health beliefs, faulty appraisals (long-term expectations/habits), impaired thought processes

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes
Bowel Elimination, Health Beliefs, Health Beliefs: Perceived Threat

Example NOC Outcome with Indicators
Bowel Elimination as evidenced by the following indicators: Elimination pattern/Stool soft and formed/Passage of stool without aids/Ease of stool passage. (Rate each indicator of Bowel Elimination: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see Section I].)

Client Outcomes
Client Will (Specify Time Frame):
• Regularly defecate soft, formed stool without use of aids
• Explain the need to decrease or eliminate the use of stimulant laxatives, suppositories, and enemas
• Identify alternatives to stimulant laxatives, enemas, and suppositories for ensuring defecation
• Explain that defecation does not have to occur every day

NIC (Nursing Interventions Classification)

Suggested NIC Interventions
Bowel Management; Medication Management

Nursing Interventions and Rationales

- Have the client keep a 7-day diary of bowel habits, including information such as time of day; usual stimulus; consistency, amount, and frequency of stool; difficulty defecating; fluid consumption; and use of any aids to defecation. **Health care providers define constipation mainly in terms of frequency, but those affected are more concerned about hard stool and discomfort and straining when attempting to defecate (Wald et al, 2008). CEB & EB: A diary of bowel habits is valuable in treatment of constipation; the use of a diary has proven to be more accurate than client recall in determining the presence of constipation (Andersen et al, 2006). A bowel diary was shown to be helpful for clients with opioid-induced constipation (Camilleri et al, 2010).**

- Determine the client’s perception of an appropriate defecation pattern. **The client may need to be taught that one bowel movement every 1 to 3 days is normal (Mayo Foundation for Medical Education and Research, 2011a).**

- Recognize the emotional influences (e.g., depression and anxiety) on defecation. **The relationship between emotions and bowel function can be explained as stress-mediated brain-gut dysfunction and can range from altered stress-induced mucosal immune function to impaired ability of the central nervous system to down-regulate incoming gut or body afferent signals (Drossman, 2011). Difficulties with defecation often begin in childhood (e.g. during toilet training) (van Dijk et al, 2007), and constipation is also associated with sexual and physical abuse, depression, and anxiety (Whitehead et al, 2009). EBN: In a study, clients with functional constipation were compared to normal controls; subjects with functional constipation had significantly higher anxiety and depression scores (Zhou et al, 2010).**

- Monitor the use of laxatives, suppositories, or enemas and suggest replacing them with increased fiber intake along with increased fluids to 2 L/day. **Use of stimulant laxatives should be avoided; long-term use can result in dependence on laxative for defecation. In elderly clients with heart failure, use of laxatives containing magnesium can lead to hypermagnesemia and possibly result in increased mortality (Corbi et al, 2008) An increase in fiber intake to 20 to 30 g/day along with an increase in fluid intake can help clients with chronic constipation (Sturtzel & Elmadfa, 2008).**

- Encourage fiber intake of 20 g/day (for adults) ensuring that the fiber is palatable to the individual and that fluid intake is adequate. **Add fiber gradually to decrease bloating and flatus. Some people with eating disorders do not eat enough fiber to produce stools. Larger stools move through the colon faster than smaller stools, and dietary fiber makes stools bigger because it is undigested in the upper intestinal tract. Fiber fermentation by bacteria in the colon produces gas. The effectiveness of water-insoluble fibers (e.g., wheat bran) on bowel function is well supported by research, and there is growing evidence that water-soluble fibers (e.g., glucomannan and psyllium) also promote laxation (Vuksan et al., 2008). For further information on use of fiber, please refer to care plan Constipation.**

- Use a mixture of bran cereal, applesauce, and prune juice; begin administration in small amounts and gradually increase amount. Keep refrigerated. **Always check with the primary care practitioner before initiating this intervention. It is important that the client also ingest sufficient fluids. EBN & CEB: This bran mixture has been shown to be effective even with short-term use in elderly clients recovering from acute conditions; however, it has not been tested with an RCT (Joanna Briggs Institute, 2008). NOTE: Giving fiber without sufficient fluid has resulted in worsening of constipation (Müller-Lissner et al, 2005).**

- Teach clients to respond promptly to the defecation urge. **CEB: A study of male volunteers determined that the defecation urge can be delayed and that delaying defecation decreased bowel movement frequency, stool weight, and transit time (Klauser et al, 1990). The reflex that causes the urge to defecate diminishes after a few minutes and may remain quiet for several hours; as a result, the stool becomes hardened and more difficult to expel.▲**

- Obtain a referral to a dietitian for analysis of the client’s diet and input on how to improve the diet to ensure adequate fiber intake and nutrition. ▲**

- Assess for signs of depression, other psychological disorders, and a history of physical or sexual abuse. **Often, people with functional constipation have experienced physical or sexual abuse, and symptoms of constipation may arise from psychological problems (O’Brien et al, 2009). EB: A study found that somatic complaints of constipation were common in people with depression (Afridi, Siddiqi, & Ansari, 2009).**

- Encourage the client to increase activity, walking for at least 30 minutes at least 5 days a week as tolerated. **Decreased mobility leads to constipation, but additional exercise does not help the constipated person who is already mobile. When the client has diminished mobility, even minimal activity increases peristalsis, which is**
necessary to prevent constipation (Joanna Briggs Institute, 2008). EB: A program of increased toileting assistance, increased exercise, and choice of food and fluid snacks every 2 hours for 8 hours per day over 3 months resulted in increased number of stools for nursing home residents (Schnelle et al, 2010).

▲ Observe for the presence of an eating disorder, the use of laxatives to control or decrease weight; refer for counseling if needed. People with eating disorders suffer from constipation and other gastrointestinal symptoms, or use laxatives as part of inducing weight loss (Roerig et al, 2010). CEB: Laxative abuse is found in clients with both anorexia and bulimia nervosa and may be associated with worsening of the eating disorder as a form of self-harm (Tozzi et al, 2006).

**Home Care**

- The interventions described previously may be adapted for home care use.
- Take complaints seriously and evaluate claims of constipation in a matter-of-fact manner. Continued constipation can lead to bowel obstruction, a medical emergency. Presence of a pattern of perceived constipation does not mean actual constipation cannot occur. However, use of a matter-of-fact manner will limit positive reinforcement of the behavior.
- Obtain family and client histories of bowel or other patterned behavior problems. History may reveal a psychological cause for the constipation (e.g., withholding) (van Dijk et al, 2007).
- Observe family cultural patterns related to eating and bowel habits. Cultural patterns may control bowel habits.
- Encourage a mindset and program of self-care management. Elicit from the client the self-talk he or she uses to describe body perceptions; correct fatalistic interpretations.
- Instruct the client in a healthy lifestyle that supports normal bowel function (e.g., activity, fluid intake, diet) and encourage progressive inclusion of these elements into daily activities.
- Discuss the client’s self-image. Help the client to reframe the self-concept as capable. Developing the ability to see themself as capable of self-care management may take time, as will making lifestyle changes.
- Instruct the client and family in appropriate expectations for having bowel movements.
- Offer instruction and reassurance regarding explanations for variation from the previous pattern of bowel movements. The client may have unrealistic expectations regarding the frequency or type of bowel movements and may assume that constipation exists when there is a reasonable explanation for deviation from the past pattern. The client may resort to the use of laxatives inappropriately.
- Contract with the client and/or a responsible family member regarding the use of laxatives. Have the client maintain a bowel pattern diary. Observe for diarrhea or frequent evacuation. Intermittent care does not allow for 24-hour supervision. Contracting allows guided control of care by the client in partnership with the nurse, and the diary promotes more accurate reporting.
- ▲ Teach the family to carry out the bowel program per the physician’s orders.
- ▲ Refer for home health aide services to assist with personal care, including the bowel program, if appropriate.
- ▲ Identify a contingency plan for bowel care if the client is dependent on outside persons for such care.

**Client/Family Teaching and Discharge Planning**

- Explain normal bowel function and the necessary ingredients for a regular bowel regimen (e.g., fluid, fiber, activity, and regular schedule for defecation).
- Work with the client and family to develop a diet that fits the client’s lifestyle and includes increased fiber.
- Teach the client that it is not necessary to have daily bowel movements and that the passage of anywhere from three stools each day to three stools each week is considered normal. Explain to the client the harmful effects of the continual use of defecation aids such as laxatives and enemas. “Lazy bowel syndrome” may occur if laxatives are used too frequently, causing the bowels to become dependent on laxatives to stimulate a bowel movement. Overuse of laxatives can also lead to poor absorption of vitamins and other nutrients and damage to the gastrointestinal tract (Mayo Foundation for Medical Education and Research, 2011b). Frequent use of enemas can result in harm including absorption of bacteria and toxins (Seow-Choen, 2009).
- Encourage the client to gradually decrease the use of the usual laxatives and or enemas, and recognize it may take months for the process to do it gradually.
- Determine a method of increasing the client’s fluid intake and fit this practice into client’s lifestyle.
- Explain what Valsalva maneuver is and why it should be avoided.
• Work with the client and family to design a bowel training routine that is based on previous patterns (before laxative or enema abuse) and incorporates the consumption of warm fluids, increased fiber, and increased fluids; privacy; and a predictable routine.

• Refer care plan for Constipation for additional Nursing Interventions, Rationales, and Client/Family Teaching and Discharge Planning.

REFERENCES


Contamination

Laura V. Polk, PhD, RN, and Pauline M. Green, PhD, RN, CNE

NANDA-I

Definition

Exposure to environmental contaminants in doses sufficient to cause adverse health effects

Defining Characteristics

Pesticides

Dermatological effects of pesticide exposure; gastrointestinal effects of pesticide exposure; neurological effects of pesticide exposure; pulmonary effects of pesticide exposure; renal effects of pesticide exposure; major categories of pesticides: insecticides, herbicides, fungicides, antimicrobials, rodenticides; major pesticides: organophosphates, carbamates, organochlorines, pyrethrum, arsenic, glycolphosphates, bipyridyls, chlorophenoxy

Chemicals

Dermatological effects of chemical exposure; gastrointestinal effects of chemical exposure; immunologic effects of chemical exposure; neurological effects of chemical exposure; pulmonary effects of chemical exposure; renal effects of chemical exposure; major chemical agents: petroleum-based agents, anticholinesterases type I agents act on proximal tracheobronchial portion of the respiratory tract, type II agents act on alveoli; type III agents produce systemic effects

Biologicals

Dermatological effects of exposure to biologics; gastrointestinal effects of exposure to biologics; pulmonary effects of exposure to biologics; neurological effects of exposure to biologics; renal effects of exposure to biologics (toxins from organisms [bacteria, viruses, fungi])

Pollution

Neurological effects of pollution exposure; pulmonary effects of pollution exposure (major locations: air, water, soil; major agents: asbestos, radon, tobacco, heavy metal, lead, noise, exhaust)

Waste

Dermatological effects of waste exposure; gastrointestinal effects of waste exposure; hepatic effects of waste exposure; pulmonary effects of waste exposure (categories of waste: trash, raw sewage, industrial waste)

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Contamination

**Radiation**
External exposure through direct contact with radioactive material; genetic effects of radiation exposure; immunologic effects of radiation exposure; neurological effects of radiation exposure; oncological effects of radiation exposure

**Related Factors (r/t)**

**External**
Chemical contamination of food; chemical contamination of water; exposure to bioterrorism; exposure to disasters (natural or human-made); exposure to radiation (occupation in radiology; employment in nuclear industries and electrical generating plants; living near nuclear industries and/or electrical generating plants); exposure through ingestion of radioactive material (e.g., food/water contamination); flaking, peeling paint in presence of young children; flaking, peeling plaster in presence of young children; floor surface (carpeted surfaces hold contaminant residue more than hard floor surfaces); geographic area (living in an area where high level of contaminants exist); household hygiene practices; inadequate municipal services (trash removal, sewage treatment facilities); inappropriate use of protective clothing; lack of breakdown of contaminants once indoors (breakdown is inhibited without sun and rain exposure); lack of protective clothing; lacquer in poorly ventilated areas; lacquer without effective protection; living in poverty (increases potential for multiple exposure, lack of access to health care, poor diet); paint in poorly ventilated areas; paint without effective protection; personal hygiene practices; playing in outdoor areas where environmental contaminants are used; presence of atmospheric pollutants; use of environmental contaminants in the home (e.g., pesticides, chemicals, environmental tobacco smoke); unprotected contact with chemicals (e.g., arsenic); unprotected contact with heavy metals (e.g., chromium, lead)

**Internal**
Age (children <5 years, older adults); concomitant exposures; developmental characteristics of children; female gender; gestational age during exposure; nutritional factors (e.g., obesity, vitamin and mineral deficiencies); preexisting disease states; pregnancy; previous exposures; smoking

**NOC** *(Nursing Outcomes Classification)*

**Suggested NOC Outcomes**
Community Health Status, Family Physical Environment, Anxiety Level, Fear Level

**Example NOC Outcome with Indicators**

<table>
<thead>
<tr>
<th>Community Health Status</th>
<th>as evidenced by the following indicators: Evidence of health protection measures/Compliance with environmental health standards/Health status of population. (Rate the outcome and indicators of Community Health Status: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent [see Section I]).</th>
</tr>
</thead>
</table>

**Client Outcomes**

**Client Will (Specify Time Frame):**
- Have minimal health effects associated with contamination
- Cooperate with appropriate decontamination protocol
- Participate in appropriate isolation precautions

**Community Will (Specify Time Frame):**
- Utilize health surveillance data system to monitor for contamination incidents
- Utilize disaster plan to evacuate and triage affected members
- Have minimal health effects associated with contamination

**NIC** *(Nursing Interventions Classification)*

**Suggested NIC Interventions**
Triage: Disaster, Infection Control, Anxiety Reduction, Crisis Intervention, Health Education
Nursing Interventions and Rationales

▲ Help individuals cope with contamination incident by doing the following:
■ Use groups that have survived terrorist attacks as useful resource for victims
■ Provide accurate information on risks involved, preventive measures, use of antibiotics, and vaccines
■ Assist to deal with feelings of fear, vulnerability, and grief
■ Encourage individuals to talk to others about their fears
■ Assist victims to think positively and to move toward the future

CEB: A crisis situation follows a predictable course in which individuals progress in response to a precipitating stressor and that culminate in a state of acute crisis. Interventions aimed at supporting an individual’s coping help the person deal with feelings of fear, helplessness, and loss of control that are normal reactions in a crisis situation (Boscarino et al, 2006; Caplan, 1964).

• Triage, stabilize, transport, and treat affected community members. CEB: Accurate triage and early treatment provide the best chance of survival to affected persons (Murdoch & Cymet, 2006; Veenema, 2007).
• Utilize approved procedures for decontamination of persons, clothing, and equipment. Victims may first require decontamination prior to entering health facility to receive care in order to prevent the spread of contamination (U.S. Army Medical Research Institute of Infectious Diseases, 2005).
• Utilize appropriate isolation precautions: universal, airborne, droplet, and contact isolation. Proper use of isolation precautions prevents cross-contamination by contaminating agents (U.S. Army Medical Research Institute of Infectious Diseases, 2005).
• Monitor individual for therapeutic effects, side effects, and compliance with postexposure drug therapy. Drug therapy may extend over a long period of time and will require monitoring for compliance as well as therapeutic and side effects (Veenema, 2007).
▲ Collaborate with other agencies (local health department, emergency medical service [EMS], state and federal agencies). Communication among agencies increases ability to handle crisis efficiently and correctly (CDC, 2009; Veenema, 2007).

Geriatric
• Help the client identify age-related factors that may affect response to contamination incidents.
• Encourage family members to acknowledge and validate the client’s concerns. Validation alleviates anxiety and increases client’s ability to cope (Boscarino et al, 2006).
• Advise the elderly to follow public notices related to drinking water. Contaminated water can harm the health of older persons and those with chronic conditions (EPA, 2009).
• Encourage older adults to receive influenza vaccination when it is available beginning as early as late August and continuing through the end of February. This administration schedule is cost effective, and comorbidities increase a person’s risk of influenza and influenza-related complications (Lee et al, 2009).

Pediatric
• Provide environmental health hazard information. Developing children are more vulnerable to environmental toxicants due to greater and longer exposure and particular susceptibility windows (Children’s Environmental Health Network, 2006).
• Caution families to avoid having children play in streams following heavy rainfall. Exposure to microbial water contamination after periods of heavy rainfall is linked to an increase in acute gastrointestinal illnesses in children (Drayna et al, 2010).

Multicultural
• Ask about use of imported or culture-specific products. Immigrant children are at increased risk of contamination, particularly from lead, related to exposure to imported culture-specific products (Lin et al, 2010).
• Assess exposure to multiple pollutants, pre-existing disease, poor nutrition, substandard housing, and limited access to health care. These factors related to lower socioeconomic status increase Latino children’s susceptibility to environmental contaminants (Carter-Pokras et al, 2007).
**Risk for contamination**

Laura V. Polk, PhD, RN, and Pauline M. Green, PhD, RN, CNE

**NANDA-I**

**Definition**

Accentuated risk of exposure to environmental contaminants in doses sufficient to cause adverse health effects

**Risk Factors**

See Related Factors in Contamination care plan.

- Independent  
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- EB = Evidence-Based

- Nurses need to consider the cultural and social factors that impact access to and understanding of the health care system, particularly for groups such as migrant workers who do not have consistent care providers. **EB: Subtle cultural biases in how nurses approach care can affect outcomes (Holmes, 2006).**

**Home Care**

- Assess current environmental stressors and identify community resources. **Accessing resources decreases stress and increases ability to cope (Boscarino et al, 2006).**

- Residential settings may present household related hazards that impact health such as spread of nosocomial infections and unsanitary, unsafe conditions (Gershon et al, 2008).

**Client/Family Teaching and Discharge Planning**

- Provide truthful information to the person or family affected.

- Discuss signs and symptoms of contamination.

- Explain decontamination protocols.

- Explain need for isolation procedures. **Well-managed efforts at communication of contamination information ensure that messages are correctly formulated, transmitted, and received and that they result in meaningful actions (ATSDR, 2006).**

- Emphasize the importance of pre- and postexposure treatment of contamination. **Early treatment will decrease associated complications related to contamination (ATSDR, 2010).**

**REFERENCES**


Environmental Protection Agency (EPA): Fact sheet: Water works: information for older adults and family caregivers (publication no. EPA-100-F-09–044), 2009.


U.S. Army Medical Research Institute of Infectious Diseases: USAMRIID’s medical management of biological casualties handbook, ed 6, Fort Detrick, MD, 2005, Author.

Suggested NOC Outcomes

Risk Control, Health Beliefs: Perceived Threat, Knowledge: Health Resources, Knowledge: Health Behavior, Community Disaster Readiness, Community Health Status. See Contamination for other possible NOC outcomes.

Example NOC Outcome with Indicators

**Risk Control** as evidenced by the following indicators: Monitors environmental risk factors/Avoids exposure to health threats/Follows selected risk control strategies. (Rate the outcome and indicators of Risk Control: 1 = never demonstrated, 2 = rarely demonstrated, 3 = sometimes demonstrated, 4 = often demonstrated, 5 = consistently demonstrated [see Section I].)

Client Outcomes

**Client Will (Specify Time Frame):**
- Remain free of adverse effects of contamination

**Community Will (Specify Time Frame):**
- Utilize health surveillance data system to monitor for contamination incidents
- Participate in mass casualty and disaster readiness drills
- Remain free of contamination-related health effects
- Minimize exposure to contaminants

Suggested NIC Interventions

Environmental Risk Protection, Bioterrorism Preparedness, Environmental Management: Safety, Health Education, Health Screening, Immunization/Vaccination Management, Risk Identification, Surveillance: Safety, Community, Communicable Disease Management, Community Disaster Preparedness, Health Policy Monitoring

Example NIC Activities—Environmental Risk Protection

Assess environment for potential and actual risk; Monitor incidents of illness and injury related to environmental hazards

Nursing Interventions and Rationales

▲ Conduct surveillance for environmental contamination. Notify agencies authorized to protect the environment of contaminants in the area. Early surveillance and detection are critical components of preparation (Murdoch & Cymet, 2006; Veenema, 2007).

▲ Assist individuals to modify the environment to minimize risk or assist in relocating to safer environment. Modification of the environment will decrease the risk of actual contamination occurring (Veenema & Toke, 2006).

▲ Schedule mass casualty and disaster readiness drills. Practice in handling contamination occurrences will decrease the risk of exposure during actual contamination events (Chung & Shannon, 2005).

▲ Provide accurate information on risks involved, preventive measures, use of antibiotics, and vaccines. Well-managed efforts at communication of contamination information ensure that messages are correctly formulated, transmitted, and received, and that they result in meaningful actions (ATSDR, 2006).

▲ Assist to deal with feelings of fear and vulnerability. **EB:** Interventions aimed at supporting an individual’s coping help the person deal with feelings of fear, helplessness, and loss of control that are normal reactions in a crisis situation (Boscarino et al, 2006).

▲ For more interventions including Pediatric, Geriatric, Multicultural, and Home Care, see the Contamination care plan.

= Independent  CEB = Classic Research  ▲ = Collaborative  EBN = Evidence-Based Nursing  EB = Evidence-Based
Risk for adverse reaction to iodinated contrast media
Betty Ackley, MSN, EdS, RN

NANDA-I
Definition
At risk for any noxious or unintended reaction associated with the use of iodinated contrast media that can occur within 7 days after contrast agent injection

Risk Factors
Anxiety; concurrent use of medications (e.g., beta-blockers, interleukin-2, metformin, nephrotoxic medications); dehydration; extremes of age; fragile veins (e.g., prior or actual chemotherapy treatment or radiation in the limb to be injected, multiple attempts to obtain intravenous access, indwelling intravenous lines in place for more than 24 hours, previous axillary lymph node dissection in the limb to be injected, distal intravenous access sites: hand, wrist, foot, ankle); generalized debilitation; history of allergies; history of previous adverse effect from iodinated contrast media; physical and chemical properties of the contrast media (e.g., iodine concentration, viscosity, high osmolality, ion toxicity); unconsciousness; underlying disease (e.g., heart disease, pulmonary disease, blood dyscrasias, endocrine disease, renal disease, pheochromocytoma, autoimmune disease)

NOC (Nursing Outcomes Classification)
Suggested NOC Outcomes
Tissue Perfusion: Renal, Kidney Function

Example NOC Outcome with Indicators
Kidney Function as evidenced by: 24-hour intake and output balance/Blood urea nitrogen/Serum creatinine/Urine color/Serum electrolytes. (Rate the outcome and indicators of Kidney Function: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see section I].)

Client Outcomes
Client Will (Specify Time Frame):
- Maintain normal blood urea nitrogen and serum creatinine levels
- Maintain urine output of 0.5 mL/kg/hr
- Maintain serum electrolytes (K⁺, PO₄, Na⁺) within normal limits

NIC (Nursing Interventions Classification)
Suggested NIC Interventions
Fluid/Electrolyte Management, Laboratory Data Interpretation

REFERENCES

Example NOC Outcome with Indicators
Kidney Function as evidenced by: 24-hour intake and output balance/Blood urea nitrogen/Serum creatinine/Urine color/Serum electrolytes. (Rate the outcome and indicators of Kidney Function: 1 = severely compromised, 2 = substantially compromised, 3 = moderately compromised, 4 = mildly compromised, 5 = not compromised [see section I].)
Nursing Interventions and Rationales

**Contrast-Induced Nephropathy (CIN)**

▲ Protect clients from contrast media–induced nephropathy by taking the following actions:

■ Watching for closely spaced studies using contrast media and consulting with provider for change in scheduling of studies if needed (Cheung, Ponnusamy & Anderton, 2008). **Multiple administration of contrast within 72 hours is considered a risk factor for CIN (O’Donovan, 2010).**

■ Notifying the provider and the radiology staff if the client has preexisting renal disease. **Clients with preexisting impaired renal function are prone to develop acute contrast media induced nephropathy (CIN) (Schilcher et al, 2011; Wong et al, 2011).**

■ Ensuring that clients having diagnostic testing with contrast are well hydrated with IV saline as ordered before and after the examination. **EB: Hydration with crystalloids has been shown to prevent renal insufficiency by diluting the IV contrast. Fluids without salt have been shown to increase acute kidney injury (Rudnick, Goldfarb, & Tumlin, 2008).**

■ Recognize that many clients with decreased renal function are not aware of their health status, and that a questionnaire checklist administered before testing may not be satisfactory to find clients with impaired renal function that should receive contrast media carefully or who are not a candidate for testing utilizing contrast media because of possible increased renal dysfunction. **EB: A study found that use of a pre-procedure checklist was not effective in identifying all the clients with a history of chronic kidney disease to protect them from further kidney damage; instead point-of-care creatine testing was recommended (Kalisz et al, 2011).**

■ Recognizing that cancer clients are often very vulnerable to contrast induced nephropathy due to frequent imaging examinations. **Cancer clients have frequent examinations requiring contrast for tumor staging and assessment of treatment response. In addition the risk is compounded by advancing age, co-administration of nephrotoxic chemotherapy drugs, and dehydration from gastrointestinal complications from drugs and radiation (Heiken, 2008).**

▲ Monitor the client carefully for symptoms of hypovolemia following use of contrast media including intake and output, blood pressure measurements, and new onset of postural hypotension with dizziness. **Hypovolemia can happen following contrast media administration due to the increased osmolarity of the contrast media, resulting in postprocedure diuresis (O’Donovan, 2011).**

▲ Monitor the client carefully for symptoms of acute failure following use of contrast media including decreased or normal urinary output, and increased creatinine levels. **Contrast media is thought to be harmful to the kidneys in several ways, through being cytotoxic to the kidney itself, through ischemia of the kidneys, and renal cell necrosis. Damage to the kidney results in acute renal failure (O’Donovan, 2010). See Risk for ineffective Renal Perfusion if CIN is present for further interventions regarding kidney function.**

**Allergic Reaction to Contrast Media**

- Recognize that both allergic and anaphylactoid reactions can occur. Anaphylaxis occurs rapidly, often within 20 minutes of injection, versus a less serious anaphylactoid reaction, which can occur later after an hour. **Hypersensitivity reactions can be divided into immediate occurring less than 1 hour of administration and less immediate occurring more than 1 hour after injection (Brackow & Ring, 2010).**

- Watch carefully for symptoms of a reaction, which can be either mild, moderate, or severe. Report all symptoms to primary care physician because symptoms can advance from mild to severe rapidly.
  - **Mild Reactions:** Urticaria, pruritus, rhinorrhea, nausea, emesis, diaphoresis, coughing, dizziness
  - **Moderate Reactions:** Persistent emesis, widespread urticaria, headache, edema of the face, laryngeal edema, mild dyspnea, palpitations, tachycardia/bradycardia, hypertension, abdominal cramps
  - **Severe Reactions:** Severe bronchospasm, severe arrhythmias, severe hypotension, pulmonary edema, laryngeal edema, seizures, syncope, death (Wilson, 2011)
Vein Damage and Damage to Vascular Access Devices

- After diagnostic testing using contrast media given IV, inspect the IV site used for administration for possible problems such as extravasation, or development of compartment syndrome with excessive amounts of contrast pushed into the tissues under pressure. The incidence of serious complications associated with the media has increased since advent of use of power or pressure mechanical injectors. Unfortunately compartment syndrome though rare can result in infection, loss of use of the affected extremity, necrosis, skin sloughing, amputation, need for skin grafting, paralysis, and death (Wilson, 2011).

- Recognize that a vascular access device utilized for administration of contrast media can rupture from the high pressures utilized to administer the contrast media. The Food and Drug Administration (FDA) has received more than 250 adverse event reports in which vascular access devices have ruptured when used with power injectors. The adverse events include rupture and device fragmentation (Earhart & McMahon, 2011).

Geriatric

- Screen the elderly client thoroughly before diagnostic testing utilizing contrast media. The elderly are more likely to have pre-existing renal failure, along with other comorbidities and are more vulnerable to develop renal damage (Cheung et al., 2008; O’Donovan, 2011).

REFERENCES


Community Outcomes

**Community Will (Specify Time Frame):**

- Develop enhanced coping strategies
- Maintain effective coping strategies for management of stress

**NIC** *(Nursing Interventions Classification)*

**Suggested NIC Interventions**

Environmental Management: Community, Health Policy Monitoring: Program Development

### Example NIC Activities—Program Development

- Assist the group or community in identifying significant health needs or problems;
- Identify alternative approaches to address the need(s) or problem(s)

**Nursing Interventions and Rationales**

*Note: Interventions depend on the specific aspects of community coping that can be enhanced (e.g., planning for stress management, communication, development of community power, community perceptions of stress, community coping strategies). Nursing interventions are conducted in collaboration with key members of the community, community/public health nurses, and members of other disciplines (Anderson & McFarlane, 2011).*

- **Describe the roles of community/public health nurses in working with healthy communities.** *EBN: Nurses at general and specialists’ levels (bachelor’s and master’s degrees) have significant roles in helping communities to achieve optimum health, including coping with stress (Chinn, 2012; Stanhope & Lancaster, 2009).*
- **Help the community to obtain funds for additional programs.** *EBN: Healthy communities may need additional funding sources to strengthen community resources (Anderson & McFarlane, 2011; Chinn, 2012).*
- **Encourage positive attitudes toward the community through the media and other sources.** *EB: Negative attitudes or stigmas create additional stress and deficits in social support (Anderson & McFarlane, 2011; Chinn, 2012; Stanhope & Lancaster, 2009).*
- **Help community members to collaborate with one another for power enhancement and coping skills.** *EBN: Community members may not have sufficient skills to collaborate for enhanced coping. Health care providers can promote effective collaboration skills (Anderson & McFarlane, 2011; Chinn, 2012).*
- **Assist community members with cognitive skills and habits of mind for problem solving.** *EBN: The cognitive skills and habits of mind of critical thinking support problem-solving ability (Rubenfeld & Scheffer, 2010).*
- **Demonstrate optimum use of power resources.** *EBN: Optimum use of power resources and working for community empowerment supports coping (Chinn, 2012).*
- **Reduce poverty whenever possible.** *EB: Poverty is a major determinant of poor health, and people living on low income consistently have higher rates of morbidity and mortality due to chronic and acute illness. Therefore, primary health care providers should consider and address income as a distinct risk to health, and researchers should explore these issues with a broader group of primary care providers and people who live in poverty (Bloch, Rozmovits, & Giambrone, 2011).*
- **Collaborate with community members to improve educational levels within the community.** *EB: Patient safety, self-care behaviors, adherence to treatment plans, knowledge of one’s medical condition, health care quality, and positive health outcomes are compromised by low health literacy. There is also compromised physical and mental health, as well as greater risk of hospitalization, and increased mortality (Evangelista et al, 2010).*

**Multicultural**

- Refer to care plan *Ineffective community Coping.*

* = Independent  
CEB = Classic Research  
▲ = Collaborative  
EBN = Evidence-Based Nursing  
EB = Evidence-Based
Defensive Coping

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NANDA-I

Definition
Repeated projection of falsely positive self-evaluation based on a self-protective pattern that defends against underlying perceived threats to positive self-regard

Defining Characteristics
Denial of obvious problems; denial of obvious weaknesses; difficulty establishing relationships; difficulty in perception of reality testing; difficulty maintaining relationships; grandiosity; hostile laughter; hypersensitivity to criticism; hypersensitivity to slight; lack of follow-through in therapy; lack of follow-through in treatment; lack of participation in therapy; lack of participation in treatment; projection of blame; projection of responsibility; rationalization of failures; reality distortion; ridicule of others; superior attitude toward others

Related Factors (r/t)
Conflict between self-perception and value system; deficient support system; fear of failure; fear of humiliation; fear of repercussions; lack of resilience; low level of confidence in others; low level of self-confidence; uncertainty; unrealistic expectations of self

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes
Coping, Decision Making, Impulse Self-Control, Information Processing

Example NOC Outcome with Indicators
Coping as evidenced by the following indicators: Identifies effective and ineffective coping patterns/Modifies lifestyle to reduce stress. (Rate the outcome and indicators of Coping: 1 = never demonstrated, 2 = rarely demonstrated, 3 = sometimes demonstrated, 4 = often demonstrated, 5 = consistently demonstrated [see Section 1].)

Client Outcomes

Client Will (Specify Time Frame):

• Acknowledge need for change in coping style
• Accept responsibility for own behavior
• Establish realistic goals with validation from caregivers
• Solicit caregiver validation in decision-making

REFERENCES
Refer to Ineffective community Coping for additional references.


Rubenfeld MG, Scheffer BK: Critical thinking tactics for nurses: achieving IOM competencies, ed 2, Boston, 2010, Jones and Bartlett.

**Suggested Nursing Interventions**


### Example NIC Activities—Self-Awareness Enhancement

Encourage patient to recognize and discuss thoughts and feelings; Assist patient in identifying behaviors that are self-destructive

### Nursing Interventions and Rationales

- **Assess for possible symptoms associated with defensive coping:** depressive symptoms, excessive self-focused attention, negativism and anxiety, hypertension, post-traumatic stress disorder (PTSD) (e.g., exposure to terrorism), unjust world beliefs. *Depression is often associated with use of defensive coping* (Hobfoll, Canetti-Nisim, & Johnson, 2006). CEB: The heightened self-focused attention might result from automatically instigated states of self-focused attention and paradoxical effects of defensive efforts to avoid self-focus. This study demonstrated, in group comparisons, that negative affect group obtained higher scores on the “Self-reflectiveness scale” than the control group (*p* < 0.03) (Höping, de Jong-Meyer, & Abrams, 2006). Repressive (or defensive) coping has been associated with elevated blood pressure levels, essential hypertension, and paroxysmal hypertension. Cardiovascular clients who use a repressive style have shown mixed results during recuperation (Gleiberman, 2007). In this study, authors related that exposure to terrorism was significantly related to greater loss and gain of psychosocial resources and to greater posttraumatic stress disorder (PTSD) and depressive symptoms (Hobfoll, Canetti-Nisim, & Johnson, 2006). In two studies, the Unjust World Views Scale (UJWVS) was developed. Belief in an unjust world was related to defensive coping, anger, and perceived future risk. These findings contribute to theory development and suggest that a belief in an unjust world may serve a self-protective function. Clinical implications are discussed as unjust world views also were found to be potentially maladaptive (Lench & Chang, 2007).

- **Stimulate cognitive behavioral stress management (CBSM).** CEB: Although denial may be an effective means of distress reduction in the short term, reliance on this coping strategy may result in a decreased capacity to effectively manage a variety of disease-related stressors in the long term. CBSM addresses this potentially detrimental pattern by teaching stress reduction skills that may decrease depressed mood via reduced reliance on denial coping (Carrico et al, 2006).

- **Ask appropriate questions to assess whether denial (defensive coping) is being used in association with alcoholism.** CEB: Alcohol abuse is a major problem in the United States, but individuals are not getting treatment. In this survey, denial or refusal to admit severity and fear of social embarrassment were the top two reasons for not seeking help (To & Vega, 2006).

- **Promote interventions with multisensory stimulation environments.** EB: Multisensory stimulation environments (MSEs) are a popular space for intervention in the numerous forms of disability, with occupational, therapeutic, or educational objectives (Castelhano & Roque, 2009).

- **Empower the client/caregiver’s self-knowledge.** EB: Theory of therapist resilience: the theory that was constructed included a central category (Integration of Self with Practice), a paradigm (Trust in Self), and two main categories (Career Development and Practice of Therapy). The process involved an initial calling, a positive agency experience, career corrections, the influence of relationships, and a move to a more flexible environment (Clark, 2009).

### Geriatric

- **Identify problems with alcohol in the elderly with the appropriate tools and make suitable referrals.** Tools such as the Alcohol Use Disorders Identification Test (AUDIT), Michigan Alcohol Screening Test-Geriatric Version (MAST-G), and the Alcohol-Related Problems Survey (ARPS) may have additional use in this population. Brief interventions have been shown to be effective in producing sustained abstinence or reducing levels of consumption, thereby decreasing hazardous and harmful drinking (Culberson, 2006).

- **Encourage exercise for positive coping.** CEB: After a 10-week period, the elderly participants in this exercise group reported significant improvements in stress, mood, and several quality-of-life indices (Starkweather, 2007).

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Defensive coping

- Stimulate individual reminiscence therapy. **EB:** After eight sessions, an elderly woman had a happier expression on her face, was willing to express herself more verbally, had more interaction with others, and required medication less frequently to help her sleep (Chou, Lan, & Chao, 2008).

- Stimulate group reminiscence therapy. **CEB:** Participation in reminiscence activities can be a positive and valuable experience for demented older persons. Consequently, the development of a structured care program for elderly persons with cognitive impairment and the need for long-term care is essential. Thus, health providers in long-term care facilities should be trained in reminiscence group therapy and to be able to deliver such a program to the targeted group (Wang, 2007).

Multicultural

- Acknowledge racial/ethnic differences at the onset of care. **CEB:** Acknowledgment of race/ethnicity issues will enhance communication, establish rapport, and promote treatment outcomes (D’Avanzo et al, 2001). African American parents who denied experiences of racism reported higher rates of behavior problems in their children, in contrast to African American parents who actively coped with racism and reported lower levels of behavior problems in their children (Caughy, O’Campo, & Muntaner, 2004).

- Assess an individual’s sociocultural backgrounds in teaching self-management and self-regulation as a means of supporting hope and coping with a diagnosis of type 2 diabetes. **EBN:** Findings obtained from the themes of this study illustrated that self-management of clients with diabetes is highly related to their own sociocultural environment and experiences (Lin et al, 2008).

- Encourage the client to use spiritual coping mechanisms such as faith and prayer. **CEB & EBN:** Prayer is a powerful way of coping and is practiced by all Western religions and several Eastern traditions (Mohr, 2006). Spirituality inspired hope among caregivers of stroke clients (Pierce et al, 2008). This study indicates that black American young adult college students may utilize religious coping methods for psychological stress (Kohn-Wood et al, 2012)

- Encourage spirituality as a source of support for coping. **EB:** The association among spirituality/religiosity, positive appraisals, and internal adaptive coping strategies indicates that the utilization of spirituality/religiosity goes far beyond fatalistic acceptance, but can be regarded as an active coping process (Büssing et al, 2009).

Home Care

▲ Refer the client for a behavioral program that teaches coping skills via “Lifeskills” workshop and/or video. **CEB:** Commercially available, facilitator- or self-administered behavioral training products can have significant beneficial effects on psychosocial well-being in a healthy community sample (Kirby et al, 2006).

Client/Family Teaching and Discharge Planning

- Teach coping skills to family caregivers of cancer clients. **CEB:** A coping skills intervention was effective in improving caregiver quality of life, reducing burden related to client’s symptoms, and caregiving tasks compared with hospice care alone or hospice plus emotional support (McMillan et al, 2006).

- Teach caregivers the COPE intervention (creativity, optimism, planning, expert information) to assist with symptom management. **CEB:** Symptom distress, a measure that encompasses client suffering along with intensity, was significantly decreased in the group in which caregivers were trained to better manage client symptoms (McMillan & Small, 2007).

- Family-based intervention may prevent anxiety disorders in the offspring of parents with anxiety disorders. **EB:** Parental satisfaction with the intervention was high. Findings suggest that a family-based intervention may prevent the onset of anxiety disorders in the offspring of parents with anxiety disorders (Ginsburg, 2009).

REFERENCES

Refer to **Ineffective Coping** for additional references.


Ineffective Coping

Arlene T. Farren, RN, PhD, AOCN, CTN-A

NANDA-I

Definition

Inability to form a valid appraisal of the stressors, inadequate choices of practiced responses, and/or inability to use available resources

Defining Characteristics

Change in usual communication patterns; decreased use of social support; destructive behavior toward others; destructive behavior toward self; difficulty organizing information; fatigue; high illness rate; inability to attend to information; inability to meet basic needs; inability to meet role expectations; inadequate problem solving; lack of goal-directed behavior; lack of resolution of problem; poor concentration; reports inability to ask for help; reports inability to cope; risk taking; sleep pattern disturbance; substance abuse; use of forms of coping that impede adaptive behavior

Related Factors (r/t)

Disturbance in pattern of appraisal of threat; disturbance in pattern of tension release; gender differences in coping strategies; high degree of threat; inability to conserve adaptive energies; inadequate level of confidence in ability to cope; inadequate level of perception of control; inadequate opportunity to prepare for stressor; inadequate resources available; inadequate social support created by characteristics of relationships; maturational crisis; situational crisis; uncertainty

NOC (Nursing Outcomes Classification)

Suggested NOC Outcomes

Coping, Decision-Making, Impulse Self-Control, Information Processing

Example NOC Outcome with Indicators

Coping as evidenced by the following indicators: Identifies effective and ineffective coping patterns/Modifies lifestyle to reduce stress. (Rate the outcome and indicators of Coping: 1 = never demonstrated, 2 = rarely demonstrated, 3 = sometimes demonstrated, 4 = often demonstrated, 5 = consistently demonstrated [see Section I].)

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Ineffective coping

Client Outcomes

Client Will (Specify Time Frame):

- Use effective coping strategies
- Use behaviors to decrease stress
- Remain free of destructive behavior toward self or others
- Report decrease in physical symptoms of stress
- Report increase in psychological comfort
- Seek help from a health care professional as appropriate

NIC (Nursing Interventions Classification)

Suggested NIC Interventions

Coping Enhancement, Decision-Making Support

<table>
<thead>
<tr>
<th>Example NIC Activities—Coping Enhancement</th>
</tr>
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<tbody>
<tr>
<td>Assist the patient in developing an objective appraisal of the event; Explore with the client previous methods of dealing with life problems</td>
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Nursing Interventions and Rationales

- Observe for contributing factors of ineffective coping such as poor self-concept, grief, lack of problem-solving skills, lack of support, recent change in life situation, maturational or situational crises. **EB**: In a large sample \((n = 758)\) of people living with HIV, the top three life stressors identified were taking on too many things at once, not having enough money for what is needed, and having a scary experience in childhood that one continues to think about (Gibson et al, 2011).

- Use verbal and nonverbal therapeutic communication approaches including empathy, active listening, and confrontation to encourage the client and family to express emotions such as sadness, guilt, and anger (within appropriate limits); verbalize fears and concerns; and set goals. **EBN**: Clinicians’ communication skills contribute to the well-being of clients and minimize psychosocial problems (Duff et al, 2009). **EB**: Solution-focused communication with clients helps to focus on goals and helps find solutions (Ruddick, 2011).

- Collaborate with the client to identify strengths such as the ability to relate the facts and to recognize the source of stressors. **EBN**: Hart and Grindel (2010) examined coping and self-care behavior in individuals with type 2 diabetes and found that coping efficacy was associated with self-care behaviors. The researchers recommended that nurses collaborate with patients to identify successful coping strategies. **EB**: Ruddick (2011) describes solution-focused communications as enhancing the identification of strengths and resources for coping.

- Encourage the client to describe previous stressors and the coping mechanisms used. **EBN**: A psychoeducation intervention that included clients’ identification of symptoms, types of coping strategies used before and after the event, and ways to select alternative strategies was accompanied by medication intervention for participants with post-traumatic stress disorder (PTSD) and statistically significantly improved PTSD and depression were found (Oflaz, Haitpoglu, & Ayan, 2008).

- Be supportive of coping behaviors; allow the client time to relax. **EBN**: Solari-Twadell (2010) found a selection of nursing interventions used by parish nurses \((n = 1,161)\) to provide coping assistance to women including presence, touch, emotional support, and coping enhancement.

- Provide opportunities for the client to discuss the meanings the situation might have for the client. **EBN**: Parish nurses \((n = 1,161)\) identified frequent use of values clarification, spiritual growth facilitation, and hope instillation in their work with women (Solari-Twadell PA, 2010). In a systematic review examining the characteristics of coping in adults with advanced cancer, seven factors were identified, which included creating meaning (Thomsen, Rydahl-Hansen, & Wagner, 2010).

- Assist the client to set realistic goals and identify personal skills and knowledge. **EBN**: Researchers found that participants who were 4 months after myocardial infarction experiencing fatigue described fumbling coping strategies. The researchers concluded that nursing interventions to assist clients to identify and reduce stressors and increase clients’ ability to cope with stressors would be useful (Alsen, Brink, & Persson, 2008). **EB**:

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In one correlational study, adjusting goals was found to be an effective coping strategy in childless people (Kraaij, Garnefski, & Schroevers, 2009).

- Provide information regarding care before care is given. **EBN:** One systematic review examining coping interventions for parents included the importance of informing parents of what to expect in their children and in relation to their own responses (Peek & Melynk, 2010). **EB:** In a clinical trial of families responsible for taking care of a relative with mental illness, a family-led education intervention resulted in significant differences in coping and decreased information needs between the intervention and control group (Pickett-Schenk et al, 2008).

- Discuss changes with the client before making them. **EBN:** When dealing with adults with cancer, the authors assert the importance of informing patients of treatment related symptoms and toxicities to help patients prepare for the treatment course; furthermore, nurses should discuss additional coping strategies to help with managing treatment-related problems (Boucher, Olson, & Piperdi, 2011).

- Provide mental and physical activities within the client’s ability (e.g., reading, television, radio, crafts, outings, movies, dinners out, social gatherings, exercise, sports, games). **EBN:** In a pilot study of a nurse-based, in-home transitional care intervention for seriously mentally ill persons, researchers found that one of the factors of importance to community transition was involvement in daily activities (Rose, Gerson, & Carbo, 2007).

- Discuss the client’s and family’s power to change a situation or the need to accept a situation. **EBN:** Researchers conducted a controlled trial of a nursing intervention to facilitate older adults’ (n = 89) access to community resources to assist them to remain at home. Researchers found the older adults accepted the intervention and had improved health empowerment, purposeful participation in goal attainment, and well-being (Shearer, Fleury, & Belyea, 2010). **EB:** Acceptance of illness and acceptance through coping strategies have been found to be associated with subjective health in a sample (n = 106) of cardiac patients (Karademas & Hondronikola, 2010).

- Offer instruction regarding alternative coping strategies. **EBN:** Mindfulness meditation intervention assisted coping with unpleasant symptoms for hospitalized clients receiving hematopoietic stem cell transplantation (Bauer-Wu, Sullivan, & Rosenbaum, 2008).

- Encourage use of spiritual resources as desired. **EBN:** Spiritual activities such as prayer, meditation, and doing good deeds played a major role in coping with living with HIV in a sample of Thai women practicing Buddhism (Ross, Sawatphanit, & Suwansujarid, 2007). In a small qualitative study of Mexican American cancer survivors (n = 5), three themes were uncovered, one of which was the use of spiritual resources to cope with cancer (Campesino, 2009).

- Encourage use of social support resources. **EB:** Authors of a systematic review of interventions for supporting informal caregivers of terminal patients concluded the findings suggest practitioners should consider that informal caregivers may need additional support (Candy et al, 2011). Low social support predicted maladaptive coping in cancer survivors (Zucca et al, 2010).

- Refer for additional or more intensive therapies as needed. **EBN:** More complex interventions are available to assist with coping, for example, a nurse-delivered intervention for depression in clients with cancer (Forchuk, 2009). Victims of crime need the assistance of a multidisciplinary team to cope and achieve a positive recovery (Green, Choi, & Kane, 2010).

**Pediatric**

- Monitor the client’s risk of harming self or others and intervene appropriately. See care plan for **Risk for Suicide.** **CEB:** Adolescents may use self-harming behaviors as a means of communication or way of coping (Murray & Wright, 2006).

- Support adolescent and children’s individual coping styles. **EBN:** Researchers found that a connection to school could be protective against ineffective coping patterns in a sample of 166 fourth graders (Rice et al, 2008). In a study of coping of 4- to 6-year-olds who were hospitalized, researchers concluded that it was essential to support children’s individual coping strategies with information, guidance, and participation in decisions (Salmela, Salanterä, & Aronen, 2010). **EB:** In one study of youth with type 1 diabetes, the following coping skills were observed: Younger children used more coping that involved choosing an alternate activity, helping others, and an emotional response (taking personal responsibility), whereas adolescents used more coping that involved persistence, alternate thinking, and talking things over (taking personal responsibility) (Hema, Roper, & Nehring, 2009).

- Encourage moderate aerobic exercise (as appropriate). **CEB:** Exercise was found to decrease the likelihood of depressive feelings when used as a positive coping strategy for school-age children with angry feelings (Goodwin, 2006).
Ineffective coping

Geriatric

▲ Assess and report possible physiological alterations (e.g., sepsis, hypoglycemia, hypotension, infection, changes in temperature, fluid and electrolyte imbalances, and use of medications with known cognitive and psychotropic side effects). EBN: A reversible pathophysiological process may be causing symptoms (Rocchioli & Sanford, 2009).

• Screen for elder neglect or other forms of elder mistreatment. CEB & EBN: Abuse of older people is a serious and growing social problem (Wang, Tseng, & Chen, 2007). In one study of 86 persons with Alzheimer’s disease and their caregivers, researchers found predictors of caregiver abuse behaviors included caregivers who were male, had greater burden, and whose care recipient had greater irritability and cognitive impairment (with less functional impairment)(Cooper et al, 2008).

• Encourage the client to make choices (as appropriate) and participate in planning care and scheduled activities. CEB & EBN: Older persons with heart failure transitioning to home from the hospital made choices about participation in the therapeutic regimen based on their individual goals for community living during a nursing intervention study, which resulted in positive client outcomes and cost savings (McCauley, Bixby, & Naylor, 2006). In a pilot study examining depression care preferences of older home care clients, researchers concluded client preferences during care planning may improve participation in geriatric depression care management (Fyffe et al, 2008).

• Target selected coping mechanisms for older persons based on client features, use, and preferences. CEB: Elders with arthritis reported cognitive efforts, diversional activities, and assertive actions were useful in dealing with daily stress (Tak, 2006). EBN: Data from 37 interviews in one study of African American older adults with mild symptoms of depression revealed culturally based coping strategies, which included self-reliance strategies, keeping depressive symptoms from family and friends, denial, use of less stigmatizing emotional expressions, and prayer and relationship with God (Conner et al, 2010).

• Increase and mobilize support available to older persons by encouraging a variety of mechanisms involving family, friends, peers, and health care providers. EBN: Researchers conducted a controlled trial of a nursing intervention to facilitate older adults’ (n = 89) access to community resources to assist them to remain at home. Researchers found the older adults accepted the intervention and had improved health empowerment, purposeful participation in goal attainment, and well-being (Shearer, Fleury, & Belyea, 2010).

• Actively listen to complaints and concerns. EBN: One of the most frequently used strategies by nurses in end-of-life care and communication was active and passive listening (Boyd et al, 2011).

• Engage the client in reminiscence. EBN: In a review of the literature, one author found that while more research is needed, reminiscence was a promising intervention for older adults and proposes a protocol for a structured group reminiscence intervention (Stinson, 2009).

Multicultural

• Assess for the influence of cultural beliefs, norms, and values on the client’s perceptions of effective coping. EBN: The representation of “strength” influences African American women’s conceptualization of depression and coping strategies (Porter & Pacquiao, 2011).

• Assess the influence of fatalism on the client’s coping behavior. EB: While fatalism has been a culturally associated concept, recent studies of Latinos experiencing post-traumatic symptoms and African American women diagnosed with cancer have found no significant findings related to fatalism and traumatic symptoms or fatalism and delay in seeking treatment for breast cancer (Gullatte et al, 2010). More research is needed.

• Assess the influence of cultural conflicts that may affect coping abilities. EBN: In one ethnographic study, the researcher concluded that in the United States, there are differences between nurses’ cultures and those of Syrian Muslims and suggested that improved cultural knowledge can lessen cultural pain and conflicts (Wehbe-Alamah, 2011).

• Assess for intergenerational family problems that can overwhelm coping abilities. EB: While generalization is not possible, in one qualitative case study of intergenerational dynamics in a Euro-American family experiencing the suicide of a father and daughter, areas for assessment were illuminated and included the role of ways of dealing with the initial death, presence of incarceration of family members, and the perceptions of family survivors of suicide (Sandage, 2010).

• Encourage spirituality as a source of support for coping. EBN: In a small qualitative study of Mexican American cancer survivors (n = 5), three themes were uncovered, one of which was the use of spiritual resources to cope with cancer (Campsesino, 2009).

• Negotiate with the client with regard to the aspects of coping behavior that will need to be modified. EBN: The use of self-mutilation as a coping behavior or communication of strength has been found in many cultures.
One case study reports the care of a Pakistani woman who began self-cutting when she first arrived in the United States. The author identifies the importance of open communication with individualized care, referrals, and support for more effective coping patterns (Williams & Hamilton, 2009).

- Encourage moderate aerobic exercise (as appropriate). **CEB**: In a group of African American elders with chronic health conditions, exercise was used as a coping strategy for effectively managing chronic health conditions (Loeb, 2006).
- Identify which family members the client can count on for support. **EBN**: In a study of sources of social support for adults living with HIV (n = 150), researchers found that spouses, friends, siblings, and mothers provided appraisal, belonging, and tangible support (Grant et al, 2009).
- Support the inner resources that clients use for coping. **EB**: In a qualitative study of 23 Sudanese refugees, participants used a number of coping strategies to deal with pre-immigration, transition, and post-immigration difficulties including reliance on religious beliefs, relying on inner resources, and focus on the future (Khawaja et al, 2008).
- Use an empowerment framework to redefine coping strategies. **EBN**: In an intervention study of an empowerment intervention in a group (n = 18) of Norwegian women undergoing or recovering from treatment for breast cancer, researchers used empowerment strategies such as reflection on strengths and resources and affirmation of strengths and abilities contributing to the empowerment of the participants (Stang & Mittelmark, 2010). **EB**: In a qualitative study of deaf people in the United States, researchers found that many participants self-identified as members of an ethno-linguistic minority. Both individual and community empowerment strategies were uncovered in the Internet weblog format, such as the value of using American Sign Language, use of humor, and advocating for social justice (Hamill & Stein, 2011).

**Home Care**

- The interventions described previously may also be adapted for home care use.
  ▲ Assess for suicidal tendencies. Refer for mental health care immediately if indicated.
  ▲ Identify an emergency plan should the client become suicidal. **Ineffective coping can occur in a crisis situation and can lead to suicidal ideation if the client sees no hope for a solution. A suicidal client is not safe in the home environment unless supported by professional help. Refer to the care plan for Risk for Suicide.**
  ▲ Observe the family for coping behavior patterns. Obtain family and client history as possible. **CEB**: Family assessment is necessary to guide interventions and activate appropriate resources (Ellenwood & Jenkins, 2007).
  ▲ Assess for effective symptoms after cerebrovascular accident (CVA) in the elderly, particularly emotional lability and depression. Refer for evaluation and treatment as indicated. **CEB**: In a study of older persons poststroke, researchers found a range of physical and psychological concerns, with some clients expressing fears of getting worse while others expressed hope for recovery. In either case, nurses can assist with the needs and promote the use of effective coping (Popovich, Fox, & Bandagi, 2007).
  ▲ Encourage the client to use self-care management to increase the experience of personal control. Identify with the client all available supports and sense of attachment to others. Refer to the care plan for Powerlessness. **EBN**: In a study of coping strategies of Latino women spouses of stroke survivors, women maintained a sense of spousal obligation to care and used emotion-focused coping to preserve their own physical and psychological health (Arabit, 2008). In a qualitative study of African American women (n = 46) with low incomes trying to lose weight, the women, who were generally had low weight loss self-efficacy, did not set goals regarding weight loss and exercise, and did not have sufficient support from family and friends to make the necessary changes (Mastin, Campo, & Askelson, 2012).
  ▲ Refer the client and family to support groups. **CEB**: Predictors of participation in support groups by cancer clients include trusted others’ views of support groups, support received from special others, and the person’s own beliefs about support groups (Grande, Myers, & Sutton, 2006).
  ▲ If monitoring medication use, contract with the client or solicit assistance from a responsible caregiver. **Elders with arthritis identified taking medications as an assertive action coping strategy (Tak, 2006).**
  ▲ Institute case management for frail elderly clients to support continued independent living. **EBN**: Case management provides home-based care of frail elderly using a process of assessment and medication review leading to new diagnoses, coordination of care, and tailoring of services that match individual needs (Elwyn et al, 2008).
  ▲ If the client is homebound, refer for psychiatric home health care services for client reassurance and implementation of a therapeutic regimen. **CEB**: Researchers found a therapeutic life review intervention delivered by home care workers enhanced mood in women participants (Symes et al, 2007). **CEB**: An intervention study of a peer-based and regular case management for community-dwelling adults with severe mental
illness demonstrated that improved positive regard at 6 months predicted and sustained treatment motivation for psychiatric, alcohol, and drug use problems and attendance at Alcohols and Narcotics Anonymous meetings (Sells et al, 2006).

Client/Family Teaching and Discharge Planning

- Teach the client to problem solve. Have the client define the problem and cause, and list the advantages and disadvantages of the options. CEB: A systematic review regarding healthy coping in diabetes management suggested there is evidence from well-controlled intervention studies about coping/problem solving interventions, which support their use (Fisher et al, 2007).

- Provide the seriously ill client and his or her family with needed information regarding the condition and treatment. CEB: Researchers concluded that seriously ill hospitalized clients have poor knowledge of CPR and would benefit from improved understanding of CPR and their role (clients and family) in the decision-making process (Heyland et al, 2006).

- Teach relaxation techniques. EBN: Mindfulness meditation (MBSR) was taught to community-dwelling adults who found the intervention promoted health awareness, personal self-care, and overall well-being (Matchim, Arner, & Stewart, 2008).

- Work closely with the client to develop appropriate educational tools that address individualized needs.

EB: Researchers developed a purpose-based information assessment (PIA) tool to evaluate how effective the information met the clients’ individual needs; findings included estimates supporting the validity, reliability, and sensitivity of the PIA. Researchers concluded that the PIA can be used to identify strengths and limitations in meeting an individual’s information needs (Feldman-Stewart, Brennestuhl, & Brundage, 2007).

▲ Teach the client about available community resources (e.g., therapists, ministers, counselors, self-help groups).

EBN: Researchers concluded from a review of the literature regarding couples surviving prostate cancer that in addition to meeting educational needs, nurses must assess for potential concerns and make recommendations and referrals to assist couples with finding appropriate resources for coping with issues related to their relationship (Galbraith, Fink, & Wilkins, 2011). EB: While research suggests that persons needing community services are interested in using them, not all who need services use them, due in part to the need for more information about resources, how to use them more effectively, or availability of services (Janda et al, 2008).

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