Assessment Using Functional Health Patterns

B2

Refer to Chapter 2 "Assessment," p. 64: Care Plans Developed after using Functional Health Patterns Assessment Model
Client's name: Mrs. Mary Acosta
Age: 55
Are there differences between the Body Systems Model and the Functional Health Pattern Model?
Document Includes: Student Activities 1–3, Pathoflow sheet, Scenario with Client Assessment, and 4 Care Plans
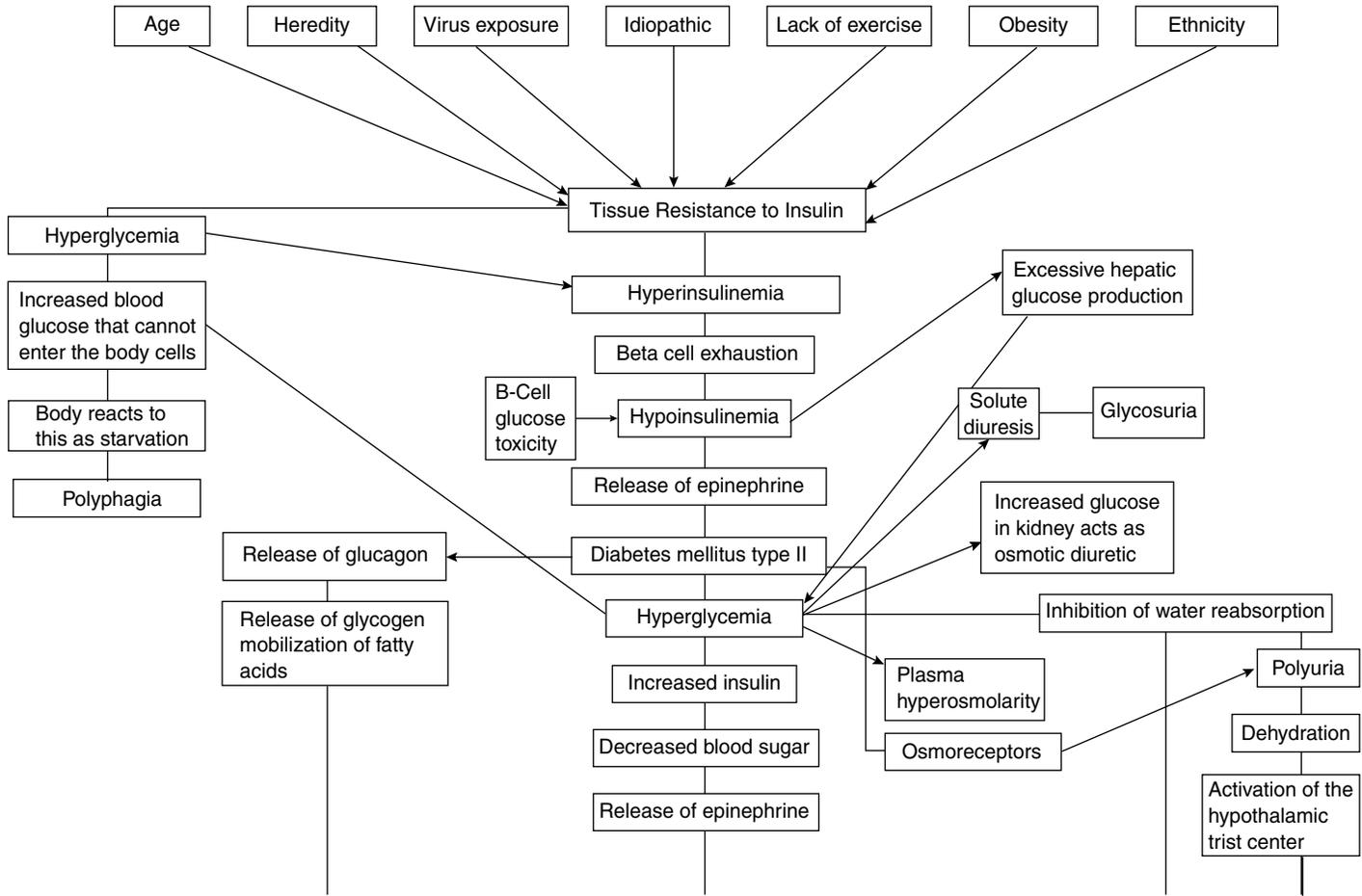
Activity 1
Compare the Functional Health Pattern Model with the Body Systems Model. Note the areas that lend themselves specifically to nursing assessment such as Health Perception/Health Management Pattern. When using this model be sure to address all the component parts.

Activity 2
Note the scenario for aid in proper identification of the client, the pathoflow sheet for the likely pathophysiological sequencing of events of the disease process, the complete assessment format, and the four prioritized nursing care plans.
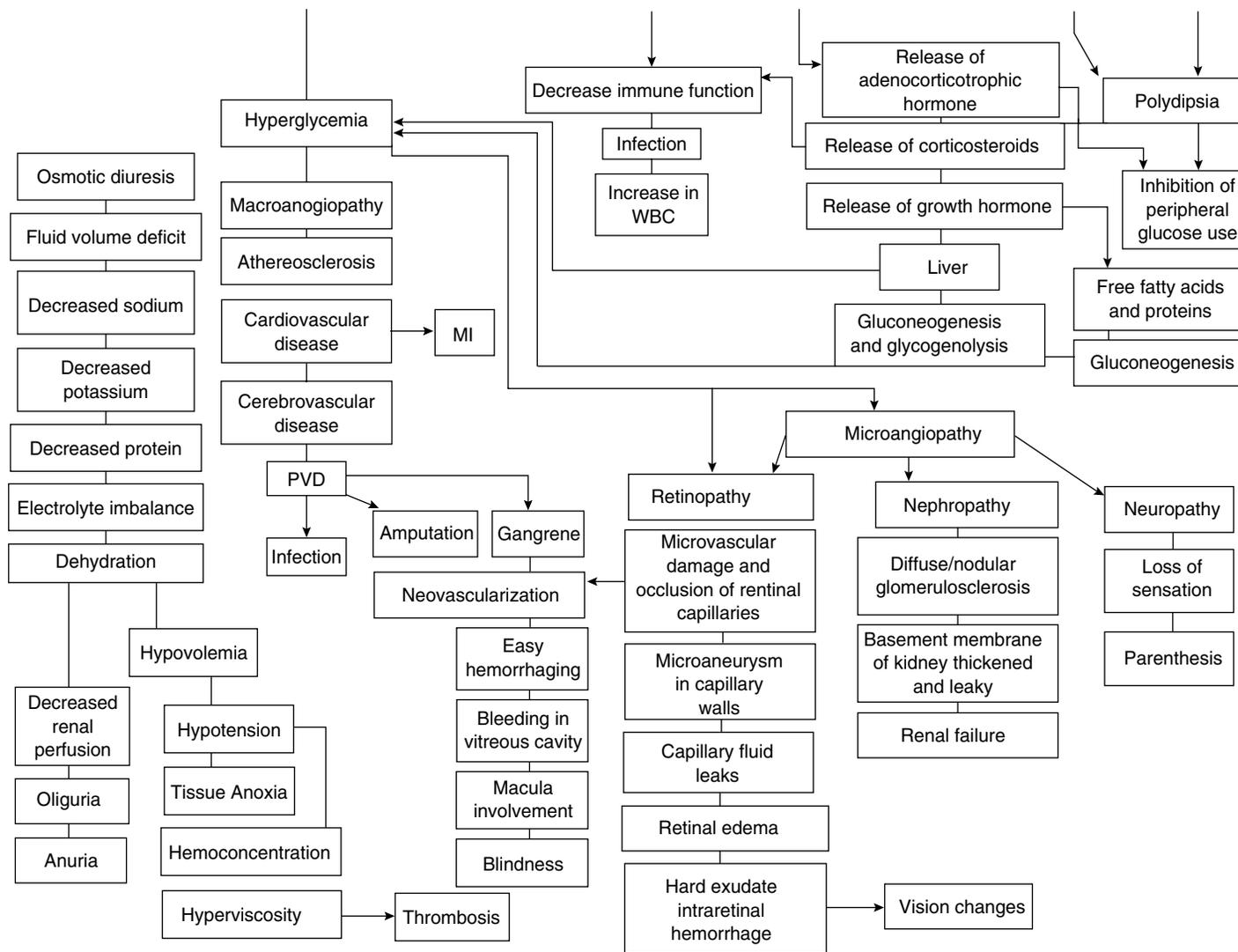
Client: Mrs. Mary Acosta

Age	Heredity	Virus exposure	Idiopathic	Lack of exercise	Obesity	Ethnicity

Tissue Resistance to Insulin

Hyperglycemia

Hyperinsulinemia

Increased blood glucose that cannot enter the body cells

Excessive hepatic glucose production

Beta cell exhaustion

Body reacts to this as starvation

B-Cell glucose toxicity → Hypoinsulinemia

Solute diuresis → Glycosuria

Polyphagia

Release of epinephrine

Increased glucose in kidney acts as osmotic diuretic

Release of glucagon ← Diabetes mellitus type II

Hyperglycemia

Inhibition of water reabsorption

Release of glycogen mobilization of fatty acids

Increased insulin

Plasma hyperosmolarity

Polyuria

Decreased blood sugar

Osmoreceptors

Dehydration

Release of epinephrine

Activation of the hypothalamic trist center

FIGURE B2–1 Diabetes Mellitus Type II Pathoflow Sheet (relates to functional health pattern).

Activity 3
Use the guidelines in Appendix A to determine if each of the four care plans are individually sequenced and if the goals are met.

HEALTH HISTORY

Client Assessment According to Functional Health Pattern

The scenario: Mrs. Mary Acosta is a 55-year-old female who was admitted to the hospital with a medical diagnosis of diabetes Type-II and hyperglycemia (blood sugar 400) and vomiting; states she was diagnosed with diabetes 5 years ago.

1. **Client Profile**
   MA is a 55-year-old white female born in New York. She grew up in Austin Texas where she lives with her husband of 30 years. Her major reason for seeking health care is extreme weakness, nausea, and vomiting. Source of history is the client who seems reliable.

2. **Treatment/Medications**
   (a) Glucophage: 10 mg in morning at breakfast and 5 mg after dinner (antidiabetic agent)
   (b) Over the counter drugs: None

3. **Past Illnesses/Hospitalizations**
   Diabetes mellitus type-II for 5 years
   Peripheral vascular disease

4. **Allergies**
   (a) Codeine, generalized rash
   (b) Denies any food and environmental allergies

5. **Developmental History**
   Developmental level: Integrity vs. despair
   Describes self as one of eight children who never had enough to eat hence she was sent to an uncle in Texas. This she regrets because she was never allowed to return to visit her family until she was grown. States "I smoked heavily (two packs a day) but stopped when I was diagnosed with diabetes." MA has been married for 30 years and attends a Baptist church with her husband periodically.

6. **Health Perception/Health Management Pattern**
   • Client's rating of health scale: (1–worst, 10–best)
     5 years ago rated at 7.

Now rates health at 5; states "Not so good, too much vomiting"
5 years from now, hopes to rate at 7, "Hopefully healthier"
- Denies use of tobacco, drugs, or alcohol
- Understands that she has diabetes but "does not know how to care for the disease"
- Expects "vomiting to stop, diabetes to be controlled and to be discharged from hospital in two days"
- Noncompliance with diet and diabetic medication, forgets to take Glucophage.

7. **Nutritional/Metabolic**
- Height: 5′ 3″
- Weight: 190 lbs
- Ideal body weight: 125–130 lbs
- Usual eating pattern: "Good appetite eats three meals a day and many snacks," has not eaten today, "vomited all day"
- Oral temperature 98°F
- Signs of dehydration–decreased skin turgor
- Does not wear dentures, last dental exam was "two years ago"
- Nails hard and smooth. No recent hair loss or change in texture. No complaint of itching or nonhealing sores (has small discolored spot on left great toe). No excessive dryness or moisture, rash, or other lesions. Voices intolerance to heat, "I prefer the winter."

8. **Elimination Pattern**
- Bowel habits: States "I have at least two bowel movements a day (soft and brown) no mucus, blood, or tarry stool." No rectal bleeding, change in color or consistency of stool.
- Bladder habits: Has been "voiding very frequently for the past three days" (frequency with nocturia)

9. **Activity Exercise Pattern**
- States she arises at 0630, does her chores around the house and eats breakfast with her husband at 0700 and eats her own breakfast at about 0900. Sometimes she either forgets to take the Glucophage or her "supply is depleted."
- Extreme weakness for the past three days; "has been in bed"
- Has no regular exercise regimen, "watches soap operas most of the day"

10. **Sexuality Reproductive Pattern**
- Obstetric History: gravida 5, para 5, Abortions 0
- Children living, five all adults, three reside in close proximity to patient

11. **Sleep/Rest Pattern**
   • Goes to bed at 2200 and awaken at 0630. States she often has trouble falling asleep because of discomfort in her legs. Sometimes she does not feel rested when she awakens. No use of sleep aids. Sleeps with one pillow, has no difficulty breathing at night.

12. **Sensory/Perceptual Pattern**
   • Vision: wears glasses for reading but sometimes her "vision is blurred." Denies itching, excessive tearing, discharge, redness, or trauma to eyes.
   • Hearing: Does not wear hearing aids. Does not ask for questions to be repeated at normal hearing level.
   • Smell: States she has no decrease in smell. Denies pain, allergies, nosebleeds, or discharge.
   • Touch: States her feet often feel numb.
   • States she has been adding more salt to her diet because her "food never tastes good."
   • Pain: admits pain in both legs, "sometimes the pain radiates down my legs."

13. **Cognitive Pattern**
   • Speech clear without stutter. Word choice appropriate to education and culture. Follows verbal cues.
   • Examines ideas clearly and concisely. Recalls past events without difficulty, orientated to time, place, and person.

14. **Role/Relationship Pattern**
   • Married for 30 years. Lives with husband. Has five grown children, three of whom live very close to her. They are very caring and visit often. When she is well she sometimes babysits her grandchildren. Has a total of ten. The two children that are away call very often. She is the fourth of eight children.

15 **Value Belief Pattern**
   • Religious orientation is Catholic but is now nonpracticing

16. **Coping/Stress Tolerance Pattern**
   • States "the overweight" creates great stress. Facial muscles tense.

NURSING PHYSICAL ASSESSMENT

General Physical Survey

   • Height: 5′ 3″, weight: 190 lbs., ideal weight: 125–130 lbs.
   • Temperature: oral–98.0°F, pulse–100, respirations–26, blood pressure–130/86 lying, client attentive and cooperative. Lying in

low Fowler's position muscles on face tense, dressed appropriately for the occasion (wearing hospital gown).

17. **Assessment of Skin, Hair and Nails**
   - Skin: light brown color, consistent throughout body. Temperature cool on hands, arms, legs, and feet. Skin smooth, slightly dry (dehydration). Skin turgor poor (skin remains tented for several seconds over clavicle), small discolored spot on left great toe. No edema.

18. **Assessment of Head and Neck**
   - Hair: Shoulder length, graying, straight, and full. No hair on back, legs or face.
   - Nails: Fingernails short, thick, and clear. No clubbing or Beaus lines. Capillary refill reflects pallor (poor capillary refill) bilaterally.
   - Blood profile: Hbg–9.0 (normal: 12–16 g/dl), HCT–29.0 (normal: 37–47 %), RBC–3.1 (normal: 4.2–4.8 million/cu)

19. **Assessment of Eye**
   - Head symmetrically rounded, neck with full ROM, and nontender. No scars, masses or pulsation. Trachea midline. Carotid pulse–2 + bilaterally without bruits, can raise eyebrows, puff cheeks, frown, and smile (CN VII intact).

20. **Assessment of Ear**
   - Equal size and shape bilaterally. No swelling, redness, or thickening. Skin color consistent with color of skin on face. No lumps or lesions. Pinna firm and nontender bilaterally. Mastoid process palpation painless. Voice test positive (heard words as whispered bilaterally CN VIII). Weber–sound heard in both ears (negative), Rinne's test AC>BC (Positive Rinne).

21. **Assessment of Nose and Sinuses**
   - Nares patent. Nasal septum: midline without bleeding or perforation, no inflammation on skin lesions. Frontal and maxillary sinuses nontender bilaterally.

22. **Assessment of Mouth and Pharynx**
   - Lips moist and pink. No lesions or ulcerations.
   - Buccal mucosa pink and moist, no discoloration, increased pigmentation, bleeding, or discoloration.
   - Hard palate smooth without lesions and masses.
   - Tongue midline when protruded, no fasciculation (CN XII) intact, no masses or lesions.

23. **Assessment of the Heart**
   - No visible pulsation, heaves, lifts, or vibrations.

- S1, S2 sounds, heard no splitting sounds, murmurs, gallops, or rubs. Point of maximum impulse at 5th intercostal space, left mid-clavicular line (PMI 5th ICS at LMCL).

24. **Assessment of Peripheral Vascular System**
    - Arms: equal in size and symmetry, cool and dry to touch bilaterally, no edema or lesions.
    - Radial pulse–100, and regular
    - Amplitude of radial and brachial pulses 1+ bilaterally.
    - Epitrochlear nodes unpalpable.
    - Capillary refill does not return immediately (>3 seconds).
    - Legs: equal in size and symmetry.
    - Small discolored area on left great toe, skin cool to touch, dry, no edema.
    - Pedal and posterior tibial pulses 1+ bilaterally.
    - Homan's sign negative bilaterally.
    - Toenails fairly soft. Capillary refill >3 seconds.

25. **Assessment of Thorax and Lungs**
    - No visible pulsation or lesions present. No use of accessory muscles of respiration, no nasal flaring, tenderness, or masses
    - Respirations–24 per minute and regular. Neither cough nor adventitious sounds.
    - Tactile fremitus equal bilaterally.
    - Resonance throughout lung fields.

26. **Assessment of Breast**
    - Breasts symmetrical in size. No masses, lesions, tenderness on palpation bilaterally. No dimpling or inverted nipples.

27. **Assessment of Abdomen**
    - Abdomen: No distention, symmetrical without masses or lesions.
    - Umbilicus midline without swelling or discoloration.
    - Bowel sounds present in all four quadrants (hyperactive). Vomiting for one day. No tenderness on light and deep palpation.

28. **Genitourinary Assessment External Assessment**
    - Pubic hairs sparse, labia flattened, vula atrophied.

29. **Musculoskeletal Assessment**
    - Walks to bathroom, gait steady, upper extremities have full range of motion, muscles strong.
    - Lower extremities: cool to touch, complained of radiating pain, pulses diminished.
    - Discolored area on left great toe. Shrugs shoulders and moves head to right and left against resistance without weakness (CN XI intact).

30. Neurological Assessment
- Neurological status: Orientated to time, place, person, and events.
- Facial expression correlates with state of health and topic being discussed (appears somewhat sad and anxious).
- Speech clear, coherent.
- Questions answered appropriately
- Long-term and short-term memory intact.
- Cooperative throughout interview, vocabulary correlates to education level.
- Asked appropriate questions relevant to illness and answered all questions posed.
- CN I-XII intact and integrated

CLIENT: Mrs. Mary Acosta
AGE: 55

Priority Nursing Care Plan 1
Relates to Functional Health Pattern Assessment

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
Subjective data: Client states "I have been vomiting for a whole day." "I am very weak, I am still nauseated, I am not hungry, and I can't stop running to the bathroom."	Nutrition imbalanced, less than body requirements as evidenced by prolonged vomiting for 24 hours, dry skin and frequency of micturition (fluid volume deficit)	Short term: Client will deny nausea. Client will demonstrate no further vomiting. Client's skin will be moist and warm. Client will void less frequently and smaller amounts (secretes at least 30cc of urine per hour). Skin fold will return to original state in less than 3 seconds (over clavicle).	Independent: Client Teaching: • Inform client that vomiting and frequent voiding are due to diabetes out of control.	• Knowledge of cause and effect relationship and disease prognosis creates hope and encourages self-involvement in treatment regimen.	Short-term goal met: Care plan implemented as written. Client compliant. Vomiting subsided, output approximated intake.
Objective data: Skin cool and dry Displays moderate to high level of anxiety (anxious look) No engagement in activities of daily living Vomited twice within last 3 hours (clear and watery) Blood sugar—400 mg/dl on admission Lost 8 lbs. in 3 days Tongue somewhat dry and mildly coated Skin fold returns to original state in > 3 seconds (over clavicle) HGB 9.0 g/dl (normal 12–16)	Defining characteristics: • Decreased oral intake • Anorexia • Nausea • Weakness • Fatigue • Weight loss • Inadequate food intake • Lack of interest in food • Change in blood profile —RBC —HCT —HGB	Long term: Client will ingest appropriate amounts of calories/nutrients. Client will display usual energy level. Weight will be stabilized. Blood profile will return to normal range. —RBC —HCT —HGB	• Diabetics develop complications by non-compliance (diabetic keto acidosis). These are temporary conditions and can be prevented. Give client tools to control nausea and vomiting: • Oral care after each episode. • Cool damp cloth to forehead, neck, and wrist. • Relaxation techniques—deep breathing and imagery. • Rest before meals. • Pleasant relaxed atmosphere before meal times (no emesis basin, bedpans, or wash basins in view during meal time). • Sit up for about two hours. • Provide small meals initially, consistent with diabetic diet (food not too cold or hot).	• Knowledge of cause and effect relationship and disease prognosis creates hope and encourages self-involvement in treatment regimen. • Removes unpleasant taste. • Provides comfort. • May decrease anorexia and promote desire for more fluids. • Increases energy. • Prevents nausea. • Prevents overdistention and regurgitation. • Prevents irritation of the gastrointestinal mucosa.	Long-term goal met: Tolerating food and fluids. Dehydrated state improved. Will access blood profile at later date. *continues*

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
HCT—29% (normal 37–47) RBC—3.1 million/cu (normal 4.2–4.8)			• Instruct client to avoid drinking while eating.	• Enhances digestion (liquids must be absorbed before digestion begins).	
			• Maintain semi-Fowlers position.	• Decreases chance of regurgitation.	
			• As nausea subsides, provide higher caloric/proteins in portions (consistent with diabetic diet).	• Provides additional nutritients.	
			• Consider food idiosyncrasies/culture and provide food exchanges according to client's food likes and dislikes.	• Food preferences and culture often influences food choices.	
			• Include iron-rich foods (consistent with diabetic diet) to control low RBC, HCT, HGB.	• Foods rich in iron will improve blood profile.	
			• Administer intravenous fluids as ordered.	• Prevents dehydration and maintains electrolyte balance.	
			• When nausea subsides, offer oral fluids (6–8 eight-ounce glasses of water per day).	• Enhances hydration.	
			• Monitor blood glucose (Normal 90–120 mg/dl) levels at least every four hours before meals and administer anti-diabetic medication as ordered according to blood glucose levels.	• Aids in carbohydrate metabolism.	
			Dependent: • Administer antiemic medication one half hour before meals.	• Relieves vomiting.	

References: Doenges, M., Moorhouse, M., & Geissler-Murr, A. (2002). *Nursing care plans: Guidelines for individualizing patient care.* Philadelphia: F.A. Davis. Kozier, B., Erb, G., Berman, A., & Burke, K. (2002). *Fundamentals of nusing: Concepts, process, and practice.* Upper saddle River, NJ: Prentice Hall health. Gulanic, M., Klopp, A., & Galanes, S. (Eds.) (1998). *Nursing care plans: Nursing diagnosis and nursing intervention.* St. Louis, MO: Mosby.

CLIENT: Mrs. Mary Acosta
AGE: 55

<u>**Priority Nursing Care Plan 2**</u>
Relates to Functional Health Pattern Assessment

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
Subjective data: Client states "I feel extremely weak." Objective data: Lying in bed Vomited twice in three hours Requested help to bathroom Marked weakness, tends to lie in one position Feet cold to touch. Peripheral pulses diminished in lower extremities Darkened spot on left great toe	Risk for injury related to weakness from prolonged vomiting, probably dehydration and altered tissue perfusion. Defining characteristics: • Altered mobility • Fatigue • Weakness • Altered peripheral tissue perfusion	Short term: Client will discuss importance of seeking help to ambulate on 06/09/03. Long term: Client will be injury free on 06/19/03.	Independent: • Assess orientation. • Assess muscle strength, share findings with client. • Allow client to express own feelings. • Correlate client's statement with objective findings. • Instruct client to use call bell to ask for assistance in all activities of daily living until strength is regained. • Keep environment safe: side rails up when client is in bed. • Bed in lowest position. • Room well lighted and uncluttered, including bathroom, and use a nightlight. • Assist with ambulation.	• Determines cognitive ability. • Determines amount of activity that can be tolerated. • Develop client's awareness of state of illness. • Establish client's knowledge about this particular condition. • Promotes safety. • Promotes safety and generates confidence about care given during the client's dependency state. • Promotes safety and prevents accidents (rolling out of bed). • Reduces trauma if client gets up without assistance. • Reduces incidence of slipping, sliding, and falling.	Short-term goals met: Client stated she felt weaker than before and will seek help getting up. Long-term goal met: Client sustained no injury. *continues*

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
			• Answer call bell promptly.	• Enhances security and builds trust.	
			• Meet needs as soon as identified.	• Same as above.	
			• Provide nonskid slippers.	• Promotes safety.	
			• Assess for orthostatic hypotension.	• Determines if client is able to tolerate ambulation.	
			• Assess vital signs before ambulation.	• Determines circulation status (oxygenation to tissues).	
			• Assess peripheral pulses and assess for Homans' sign before ambulation.	• Same as above.	
			• Examine lower extremities for bruits, color change, and pain.	• Same as above.	
			• Allow private time while client is in bathroom.	• Provides privacy and time for concentration and reflection.	
			• Stay in close proximity.	• Promotes safety.	
			• Check client's condition and needs frequently while in bathroom.	• Same as above.	
			• Do not forget client in bathroom.	• Demonstrates caring.	
			• Reassess client after ambulation.	• Provides cues regarding further ambulation.	
			Dependent:		
			• Provide assistive device (walker) when ambulating	• Decreases chances of falls and provides stability.	

CLIENT: Mrs. Mary Acosta
AGE: 55

<u>**Priority Nursing Care Plan 3**</u>
Relates to Functional Health Pattern Assessment

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
Subjective data: Client eats "three meals a day also many snacks throughout the day. I sometimes forget to take the Glucophage and sometimes I do not have the medication. I really don't know how to deal with this diabetes." Objective data: Client is obese (190 lbs.), approximately 60 lbs. overweight. Blood sugar out of control (400mg/dl) at present. Ordered 1800 ADA diet.	Nutrition more than body requirement probably related to: • Erratic eating • Noncompliance • Knowledge deficit about diabetes Defining characteristics: • Food intake exceeds metabolic needs • Weight more than 20% of optimum body weight • Dysfunctional eating pattern	Short term: Client will identify ways to effectively control her diabetes. Client will verbalize knowledge about the relationship between diabetes, diet, exercise and medication. Long term: Client will achieve a high level of wellness: Client will contribute to her own and her family's welfare. Client will make contributions to society. Client will achieve weight only 20% above ideal body weight (130–160 lbs.).	Independent: • Teach client that: —Diabetes can be controlled. —People can lead a normal life and lose weight when there is compliance with the medical regimen. —To control diabetes one must comply with ordered diet, medications, exercise, and doctor's visit. • Perform a 24-hour diet recall, point out foods that are allowed on ADA diet. • Discern food idiosyncrasies • Identify food exchanges that are being consumed currently due to idiosyncrasies. • Inform client to take all medication (Glucophage). • Walking is the best form of exercise.	• Teaching the benefits of adherence will create interest in learning. • Concentration on food preferences and culture identification will enhance compliance • Same as above • Same as above • Understanding the benefits of medication should enhance compliance. • Comprehensive instruction on the diabetic plan of care provides client with a regimen to follow and aids in weight loss.	Short-term goal met: Client verbalized understanding of the information given, stated she wished she knew this long ago, "my health would be better." Long-term goal met: Daughter came to teaching session. Assisted mother with meal planning and insulin administration. Stated that both would work with the whole family to improve their diet. *continues*

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
			• She should walk at least three times a week and avoid fatigue.	• Same as above	
			• She should eat lavishly of fruits and vegetables.	• Same as above	
			• Decrease fat and red meat and shellfish.	• Same as above	
			• Should eat three times a day approximately at the same time each day.	• Same as above	
			• Diabetic medication should be taken at the same time each day as ordered by doctor (AC meals). Client is now being regulated on insulin.	• Stimulates secretions of insulin thus aids in digestion.	
			• Encourage client to involve her daughter in her diabetic education.	• Assistance from caregivers can help the client achieve the desired outcome.	
			• Discuss equipment/ supplies/ teach insulin administration:	• Same as above	
			—Syringes and needles.		
			—Insulin type cleaning agent.		
			—Infection control.		
			—Demonstrate giving injection using substitute (orange).		
			—Repeat until client is comfortable with technique.		
			—Have client administer several injections before discharge. Tell client insulin treatment may be temporary therapy.		

Ordered & Selected Data	Nursing Diagnosis	Goals	Interventions	Rationale	Evaluation
Subjective data: Client complained of numbness in legs with radiating pain. Objective data: Lower extremities cool to touch. Pulses diminished. Capillary refill prolonged (>3 seconds). Darkened area on left great toe.	Tissue perfusion, ineffective, evidenced by (see ordered and selected data). Risk for infection related to darkened area on left great toe. Defining characteristics: Skin cool to touch Blanching of skin Capillary refill more than 3 seconds Complaints of numbness in extremities Discoloration of skin	Short term: Client will discuss ways to improve circulation and prevent infection. Long term: Client will report capillary refill >3 seconds. Lower extremities will be warm to touch. Darkened area on left great toe will show no signs of infection, redness, warmth, pain, or drainage.	Independent: Give instructions about foot care: • Wash feet in warm to cool water (avoid hot water). • Dry feet thoroughly after each wash. • Use lotion lavishly, dry feet after application • Use gentle approach with feet. • Use only emory boards to care for nails. • Do not wear tight-fitting shoes. • Report all cuts and bruises to doctor immediately. • Adhere to diet. • Keep feet warm when weather is cold. Dependant: • Carry out doctor's and dietician's orders as prescribed: —Diet —Antidiabetic medication. —Exercise regimen.	• Poor foot care promotes the growth of organisms. • Same as above. • Same as above. • Ischemia in lower extremities predisposes the diabetic client to bruises and breaks in the skin that may lead to gangrene. • Same as above. • Same as above. • Prompt reporting facilitates early treatment and should reduce complications. • Diet enhances balance between insulin and carbohydrates, improves anabolism and circulation. • Facilitates circulation. • Collaborative care produces positive outcome.	Short-term goal met: Client demonstrated readiness to learn and verbalized understanding and willingness to comply. Long-term goal met: Lower extremities, circulation improved. Capillary refill 2+.