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Urinary Calculi (Renal Calculi)

Patient name: _____ Admission: _____

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- I. **The client/caregiver can define urinary calculi.**
 - A. Calculi or a kidney stone is a solid mass consisting of a collection of tiny crystals.
 - B. They can be in the kidney or ureter.
 - C. Various types of stones include calcium oxide, magnesium-ammonium, uric acid, cystine, and mixed.

- II. **The client/caregiver can list factors that increase risk of urinary calculi.**
 - A. Familial tendency
 - B. Dehydration
 - C. Diet rich in calcium, oxalates, or uric acid
 - D. Sedentary lifestyles or prolonged immobility
 - E. Repeated urinary infections
 - F. Osteoporosis
 - G. Metabolic disorders (gout)

- III. **The client/caregiver can recognize signs and symptoms of urinary calculi.**
 - A. Fever and chills
 - B. Nausea and vomiting
 - C. Blood in the urine
 - D. Flank pain or back pain
 - On one or both sides
 - Progressive
 - Severe
 - Spasm-like
 - May radiate or move to pelvic, groin, or genitals
 - E. Restlessness
 - F. Cloudy urine with sediment
 - G. Decreased urine output

- IV. **The client/caregiver can list measures to prevent or control urinary calculi.**
 - A. Nutritional recommendations are to restrict the following foods to small amounts if stones are composed of calcium oxalate.

• Apples	• Asparagus
• Beer	• Beets
• Berries	• Black pepper

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- Broccoli
 - Chocolate
 - Coffee
 - Collards
 - Grapes
 - Milk
 - Parsley
 - Pineapples
 - Spinach
 - Tea
 - Vitamin C
 - Cheese
 - Cocoa
 - Cola
 - Figs
 - Ice cream
 - Oranges
 - Peanut butter
 - Rhubarb
 - Swiss chard
 - Turnips
 - Yogurt
- B. If kidney stones are composed of uric acid, then a low-purine diet is recommended. The following list shows foods to use in small amounts.

• Organ meats	• Anchovies
• Consommé	• Gravies
• Lentils	• Whole-grain cereals
• Beans	• Peas
• Asparagus	• Cauliflower
• Mushrooms	• Spinach
• Butter	• Cola
• Yeast	
 - C. Increase fluids (water is best) to at least 2.5 quarts per day.
 - D. Increase activity to decrease urinary stasis:
 1. Use active or passive range of motion exercises.
 2. Change positions frequently.
 - E. Strain all urine to secure a stone if it passes.
 - F. Take pain medications as ordered.
 - G. Take the full course of antibiotics.
 - H. Consult physician before taking any over-the-counter medications.
 - I. Avoid alcohol.
 - J. Urine cultures should be taken periodically as a follow-up to detect any recurrent infections.
 - K. Report to physician signs of restlessness, flank pain, decreased urine output, and fever, or go to the emergency room if the pain is severe.
 - L. Keep follow-up appointments with physician.

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V. **The client/caregiver is aware of possible complications.**

- A. Urinary tract infection
- B. Urinary obstruction
- C. Renal failure
- D. Pyelonephritis
- E. Kidney damage and scarring

RESOURCES

American Foundation for Urologic Disease
www.afud.org

National Kidney and Urologic Diseases Information
 Clearinghouse
 E-mail: nkudic@info.niddk.nih.gov

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