CONSIDERATIONS:

1. Nephrostomies are performed to:
   a. Relieve a blockage between the renal pelvis and the bladder, usually along the ureter
   b. Provide direct access for chemotherapy
2. A stent or tube is placed between the skin on the patient's lower back directly into the renal pelvis (area where renal system deposits urine just above ureter) of either or both kidneys. While caring for patients with nephrostomies, the nursing objectives are to:
   a. Prevent infection
   b. Maintain tube without clogs
3. Maintain a closed (sterile) system to decrease any infections or complication of the nephrostomy tube. [**Note:** If the system is opened (tubes disconnect), the connector should be cleansed with alcohol swab before and after connection.]
4. Tube securement must maintain the tube in the correct position without kinks or obstruction. The tube is either taped, sutured or a securement device is used to keep it securely in place.
5. Most nephrostomy tubes are connected to drainage tubing and a bag via a stop-cock:
   a. The stop-cock should always be open to the drainage tubing
   b. Only turn the stop-cock to the off position (closed to drainage system) and open it to syringe, when instilling solution into the nephrostomy tube
   c. Assure that after flushing, you turn the stop-cock back so it is open to the drainage system
6. To assure continuous drainage, the tube should not be pinched, kinked or plugged:
   a. Keeping the tube secured by bending or shaping in a "C" will provide some give and prevent the tube from getting pulled out
   b. Always assure the stop-cock is open in the right position to allow urine flow
   c. Never clamp the tube without physician order
7. If no drainage flows into the bag:
   a. Assess tube for kinks or obstructions
   b. Check that stop-cock is in correct position
   c. Be sure the bag is placed lower than the kidneys
   d. Irrigate the tube
   e. If there is still no urine flow, notify physician immediately
8. Nephrostomy tube removal is performed by a physician. After removal:
   a. Cover the site with a 4 x 4 sterile gauze dressing or other appropriate dressing
   b. Change dressing daily or more often, as needed
   c. If drainage is excessive, place a small urostomy appliance over the site until drainage resolves
9. Instructions for patient/caregiver:
   a. Take showers only when and how the physician instructs:
      i. During showers, the site must be protected from getting wet with a dressing made especially for this purpose or with plastic wrap secured over site
      ii. No tub baths or swimming until tube is removed and the site heals
   b. Notify physician of any signs/symptoms of infection such as:
      i. Temperature above 101 ° F or 38 °C
      ii. Back or side pain
      iii. Redness, swelling, tenderness, or drainage around the tube
      iv. Low urine output, dark or foul smelling urine
   c. Other reasons to notify physician immediately:
      i. Urine color changes to pink or red
      ii. No urine drains for 2 hours
      iii. Not able to flush tube
      iv. Tube comes out; do not attempt to reinsert it
   d. Dressing over site:
      i. When changing dressing, do not tug on the tube or allow it to become kinked or pinched
      ii. Secure all tubing to the patient's body at all times so it cannot be pulled or snagged
   e. Drainage bag:
      i. Inspect urine output frequently; it should always look the same. If there is a decrease in the amount, change in color or observance of sediments, the patient may need to increase fluid intake
      ii. Empty the collection bag on a regular interval, usually when bag is 1/3 - 1/2 full
   f. Staff should emphasize to all patients the importance of contacting a clinician for assistance when there is an identified need to disconnect or reconnect devices

EQUIPMENT:

Gloves
Impervious trash bag
Waterproof, absorbent under pad or towel
Long handled mirror
Dressing change supplies:
- Adhesive remover
- 4 x 4 sterile gauze pads
- Sterile cotton applicators
- Wound cleansing solution or normal saline
- Transparent dressing (optional)
- Paper tape/cloth tape

Sterile irrigation set, for flushing catheter, if ordered:
- Sterile gloves
- 10 mL sterile syringe
- Gauze pads

Antimicrobial solution
Drainage basin
Sterile irrigation solution (normal saline or prescribed solution)
Securement device
Drainage bag
Catheter leg straps (as necessary)

PROCEDURE:

1. Adhere to Standard Precautions and explain procedure to patient/caregiver.
2. Position patient on bed so he/she can observe and learn how to assess and care for tube.
3. Protect the area beneath the patient with a waterproof, absorbent under pad and cover the patient's lower body as needed to prevent exposure.
4. Provide a long-handled mirror.
5. Provide care as ordered.

Dressing Change

1. Check dressing orders as physician may have a specific protocol.
2. Adhere to Standard Precautions and explain procedure to patient.
3. Remove old dressing carefully:
   a. Do not tug on tube; remove dressing carefully
   b. Anchor the tube to the skin with one hand while removing tape with the other hand
   c. Use adhesive remover to remove tape and to clean residual adhesive on skin
   d. Clean adhesive remover thoroughly off the skin with soap and water, wound cleanser or with normal saline
4. Cleanse around nephrostomy tube:
   a. Use wound cleanser, antiseptic wipes, normal saline or soap and water
   b. Cleanse thoroughly, beginning at the tube site and moving outward
   c. Repeat cleansing. Allow to thoroughly dry
   d. Some new securement devices do not allow cleansing the site until changed. Check with the manufacturer or physician
5. Examine skin and tube:
   a. Inspect tube for kinks
   b. Examine tube exit site
   c. Check for leakage of urine from tube
   d. Assess peristomal skin, for signs of redness or inflammation
6. Place appropriate dressing over or around catheter and secure in place. A transparent dressing may be applied to provide a waterproof barrier.

Occluded or Plugged Tube Irrigation

1. Check orders for type and amount of solution to use for irrigation.
2. Adhere to Standard Precautions and use aseptic technique.
3. Draw up irrigation solution, as ordered. A typical order is 5 mL of sterile normal saline.
4. Clean connections vigorously with alcohol wipes, and allow drying.
5. Attach irrigating syringe to stop-cock connection.
6. Turn stop-cock so flow is from syringe to nephrostomy.
7. Gently irrigate catheter with 5 mL sterile normal saline, or ordered irrigation solution, never forcing the irrigant.
8. Gently allow irrigant to flow back per gravity drainage:
   a. As a rule, never aspirate
   b. Only aspirate with physician's order
   c. Never re-instill used irrigant into tube
9. If unable to get a return of irrigant, assess catheter for kinks; if none found, notify the physician.
10. Discard any unused irrigating solution and the solution in the syringe into the toilet.
11. Instruct patient to:
    a. Apply securement device and instruct in the use of a leg bag to prevent pulling ontube
    b. Use continuous gravity drainage bag at bedtime
12. Discard soiled supplies in appropriate containers.

AFTER CARE:

1. Document in patient's record:
   a. Temperature
   b. Color and characteristics of urine
   c. Urinary output and patency of tube
   d. Peristomal skin (drainage, redness, etc.)
   e. Any drainage from around tube site. Note color, amount, odor and consistency
   f. Procedures performed (i.e., dressing change, irrigation)
   g. Patient's response to procedure
   h. Instructions given to patient/caregiver
2. Instruct patient/caregiver as per “Instructions to Patient/Caregiver.”
3. Communicate with physician about fever, signs of infection, change in urine, inability to irrigate, etc.

REFERENCE:

Clinical Center National Institutes of Health (2007). Caring for Your Percutaneous Nephrostomy. Retrieved on June 24, 2012 from http://www.cc.nih.gov/ccc/patient_education/pepubs/percneph.pdf

Robson, P. (2011). Caring for Your Percutaneous Nephrostomy. New York: Memorial Sloan-Kettering Cancer Center.

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