21.8: Applying the Nursing Process to Catheterization

When preparing to insert an indwelling urinary catheter, it is important to use the nursing process to plan and provide care to the patient. Begin by assessing the appropriateness of inserting an indwelling catheter according to CDC criteria as discussed in the "Preventing CAUTI" section of this chapter. Determine if alternative measures can be used to facilitate elimination and address any concerns with the prescribing provider before proceeding with the provider order.

Subjective Assessment

In addition to verifying the appropriateness of the insertion of an indwelling catheter according to CDC recommendations, it is also important to assess for any conditions that may interfere with the insertion of a urinary catheter when feasible. See suggested interview questions prior to inserting an indwelling catheter and their rationale in Table 21.8.1.

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Rationale</th>
</tr>
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<tbody>
<tr>
<td>Do you have any history of urinary problems such as frequent urinary tract infections, urinary tract surgeries, or bladder cancer?</td>
<td>Previous medical conditions and surgeries may interfere with urinary catheter placement. Information about a male patient’s prostate will assist in determining the size and type of catheter used. (Recall that using a catheter with a Coude tip is helpful when a male patient has an enlarged prostate.) If a patient has a history of previous urinary tract infections, they may be at higher risk of developing CAUTI.</td>
</tr>
<tr>
<td>For males: Do you have any history of prostate enlargement or prostate problems?</td>
<td></td>
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For females: Have you had any gynecological surgeries?

Have you ever had a urinary catheter placed in the past? If so, were there any problems with placement or did you experience any problems while the catheter was in place?

Questioning the patient about placement and prior catheterizations assists the nurse in identifying any problems with catheterization or if the patient has had the procedure before, he/she may know what to expect.

Do you have any questions about this procedure? How do you feel about undergoing catheterization?

The nurse should encourage patient involvement with their care and identify any fears or anxiety. Nurses can decrease or eliminate these fears and anxieties with additional information or reassurance.

Do you take any medications that increase urination such as diuretics or any medications that decrease urgency or frequency? If so, please describe.

Identifying medications that increase or decrease urine output is important to consider when monitoring urine output after the catheter is in place.

Have you had any orthopedic surgeries that may affect your ability to bend your knees or hips? Are you able to tolerate lying flat for a short period of time?

The patient may not be able to tolerate the positioning required for catheter insertion. If so, additional assistance from other staff may be required for patient comfort and safety.

Cultural Considerations

When inserting urinary catheters, be aware of and respect cultural beliefs related to privacy, family involvement, and the request for a same-gender nurse. Inserting a urinary catheter requires visualization and manipulation of anatomical areas that are considered private by most patients. These procedures can cause emotional distress, especially if the patient has experienced any history of abuse or trauma.

Objective Assessment

In addition to performing a subjective assessment, there are several objective assessments to complete prior to insertion. See Table 1 for a list of objective assessments and their rationale.

<table>
<thead>
<tr>
<th>Objective Data Collection</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>Review the patient’s medical record for any documented medical</td>
<td>Any type of obstruction or scar tissue</td>
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</tbody>
</table>
conditions the patient may not have reported, such as urethral strictures, structural problems with the bladder or urethra, or frequent urinary tract infections.

Analyze the patient’s weight and most recent electrolyte values. Weight is used to determine a patient’s fluid status, especially if they have fluid overload. Electrolyte levels are also affected by fluid balance and the use of diuretic medications. Establish a baseline to use to evaluate outcomes after placing the urinary catheter.

Determine the patient’s level of consciousness, ability to cooperate, developmental level, and age. Evaluate the patient’s ability to follow directions and cooperate during the procedure and seek additional assistance during the procedure if needed. This data will impact how to explain the procedure to the patient.

Perform physical assessment of the bladder and perineum. Palpate the bladder for signs of fullness and discomfort. (Bladder emptying may also be assessed using a bladder scanner per agency policy). Inspect the perineum for erythema, discharge, drainage, skin ulcerations, or odor. Note the position of anatomical landmarks. For example, in females identify the urethra versus the vaginal opening. A full bladder produces discomfort and urgency to void, especially on palpation. These symptoms should be relieved with the placement of a urinary catheter.

Identify any abnormal physical signs in the perineal area that may interfere with comfort during insertion. Determining the urethral opening improves accuracy and ease of insertion.

When examining the perineal area, note the approximate diameter of the urinary meatus. Choose the smallest, appropriately-sized diameter catheter. An appropriately-sized catheter is important to avoid unnecessary discomfort or trauma to the urinary tissue. Catheters that are 14 French diameter are typically used in adults.

Life Span Considerations

Children
It is often helpful to explain the catheterization procedure using a doll or toy. According to agency policy, a parent, caregiver, or other adult should be present in the room during the procedure. Asking a younger child to blow into a straw can help relax the pelvic muscles during catheterization.

Older Adults
The urethral meatus of older women may be difficult to identify due to atrophy of the urogenital tissue. The risk of developing a urinary tract infection may also be increased due to chronic disease and incontinence.
**Expected Outcomes/Planning**

Expected patient outcomes following urinary catheterization should be planned and then evaluated and documented after the procedure is completed. See Table \(\PageIndex{3}\) for sample expected outcomes related to urinary catheterization.

### Table \(\PageIndex{3}\): Expected Outcomes of Urinary Catheterization

<table>
<thead>
<tr>
<th>Expected Outcomes</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient’s bladder is nondistended and not palpable.</td>
<td>Verifies appropriate bladder emptying.</td>
</tr>
<tr>
<td>The patient reports no abdominal or bladder discomfort or pressure.</td>
<td>Verifies correct catheter placement by allowing urine flow and relieving discomfort or pressure.</td>
</tr>
<tr>
<td>Urine output is at least 30 mL/hr.</td>
<td>Verifies correct catheter placement and appropriate kidney functioning. If urine output is less than 30 mL/hour, check tubing for kinking and obstruction, and notify the provider if there is no improvement after manipulating the tubing.</td>
</tr>
<tr>
<td>Patient verbalizes understanding of the purpose of the catheter and signs of a urinary tract infection to report.</td>
<td>Verifies the patient’s understanding of the procedure and signs of complications.</td>
</tr>
</tbody>
</table>

Safety is a priority! Acquire additional staff assistance to help support and position patients who are weak, obese, frail, confused, uncooperative, or have a fractured hip or pelvis.

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**Implementation**

When inserting an indwelling urinary catheter, the expected finding is that the catheter is inserted accurately and without discomfort, and immediate flow of clear, yellow urine into the collection bag occurs. However, unexpected events and findings can occur. See Table \(\PageIndex{4}\) for examples of unexpected findings and suggested follow-up actions.

### Table \(\PageIndex{4}\): Unexpected Findings and Follow-Up Actions

<table>
<thead>
<tr>
<th>Unexpected Findings</th>
<th>Follow-Up Action</th>
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<tbody>
<tr>
<td>Urine flow does not occur when catheterizing a female patient.</td>
<td>The catheter may have entered the vagina and not the urethral meatus. Leave the catheter in the vagina as a landmark to avoid incorrect reinsertion. Obtain a new catheter kit and cleanse the urinary meatus again before reinsertion. If reinsertion is successful into the bladder, remove the catheter that is in vagina after the second...</td>
</tr>
</tbody>
</table>
Sterile field is broken during the procedure. If supplies or the catheter become contaminated, obtain a new catheter kit and restart the procedure.

Patient reports continued bladder pain or discomfort although urinary flow indicates correct catheter placement. Ensure there is no tension pulling at the catheter. It may be helpful to advance the catheter another 2-3 inches to ensure it is in the bladder and not the urethra. If these actions do not resolve the discomfort, notify the provider because it is possible the patient is experiencing bladder spasms. Continue to monitor urine output for clarity, color, and amount and for signs of urinary tract infection.

The nurse is unable to advance the catheter on a male patient with an enlarged prostate. Do not force advancement because this may cause further damage. Ask the patient to take deep breaths and try again. If a second attempt is unsuccessful, obtain a Coude catheter and attempt to reinsert. If unsuccessful with a Coude catheter, notify the provider.

Urine is cloudy, concentrated, malodorous, dark amber in color, or contains sediment, blood, or pus. Notify the health care provider of signs and symptoms of a possible urinary tract infection. Obtain a urine specimen as prescribed.

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**Evaluation**

Evaluate the success of the expected outcomes established prior to the procedure.