

Child Health Patient Safety Organization

Patient Safety Action Alert

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Foley Catheter Insertion

Fundamental Issue

While Foley catheters may be a vital intervention in a patient's care, they can cause significant complications, such as urinary tract infection, retained balloon fragments, bladder fistula or perforation, bladder stone formation, patient discomfort, and urethral injury. After removal, patients have verbalized "a sense of urgency or bladder spasms, blood in the urine, leaking urine, and difficulty with starting or stopping the urine stream."¹

Twenty-one percent of young children experience a complication from urethral catheterization.² Identifying appropriate indications, re-evaluating and documenting catheter necessity daily, and reviewing best practices will help prevent Foley catheter complications.

Indications³⁻⁵

- Urinary retention
- Bladder outlet obstruction (perineal swelling, trauma)
- Close monitoring of urinary output in critically ill patients

Contraindications^{3,5}

- Suspected or known urethral injury/trauma
- Concerns for lower urinary tract disruption (perineal hematoma, bleeding from meatus, pelvic fracture)
- Recent urethral or bladder neck surgery

Pediatric considerations

- Consult a specialist if unsuccessful after two attempts or if there is no urine return after troubleshooting.
- Patients with altered urethral or bladder anatomy — such as labial fusion, ambiguous genitalia, history of urological procedures/surgical intervention — may require advanced expertise for catheter placement. Consider consulting Urology.
- Normal expected pediatric urine output is 1-2 mL/kg/hr.

What can I do with this alert?

- Forward to the recommended target audiences for evaluation.
- Include in your daily safety brief.
- Create a loop-closing process for evaluating risks and strategies to decrease risk of repeat harm.
- Let us know what is working and what additional information you need.

Target Audiences

- Nursing
- Medical and clinical Leaders
- Quality Improvement
- Patient Safety
- Clinical educators
- Urology services
- Primary care
- Emergency/urgent care

Contact Us

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Pediatric Specific Supply Considerations

Recommended catheter sizes^{5,7,8}

Age	Fr size
Neonates < 2500 g	Requires specialty size and supplies. Catheters with balloons are not recommended. 3.5 - 6 fr catheters may contain a wire that needs removing to ensure urine flow.
0-1 Year (infant)	6-8
1-8 years (toddler/pre-school)	8-10
8-12 years (school age)	10-12
12 years and older (adolescent)	12-14
Adult (short-term use)	14-16
Adult (drainage of hematuria or clots)	20-24

Size and Type

Silicone Foley catheters are considered best practice. Avoid latex when possible, and confirm the patient does not have a latex allergy prior to use.^{6,7}

Consider the patient's age, size, and gender when choosing a urinary catheter. Choose the smallest size possible that allows for urine drainage to minimize bladder neck and urethral trauma.

Balloon inflation^{3,7,9}

- Do not inflate the balloon before insertion. Deflation can create ridges in silicone catheter balloons, making the catheter difficult to insert.
- Ensure flow of urine before balloon inflation.
- For male patients, insert the catheter to the hub before balloon inflation.
- Inflate balloon with sterile water provided in the insertion kit.
- Do not use saline — crystallization of saline can make removal difficult.
- Do not use air — air may cause the balloon to “float” in the bladder, resulting in inadequate drainage.

Balloon deflation⁸

- Use a passive deflation technique with removal. (Attach an empty syringe, allow fluid to drain. Do not pull back on the plunger).
- If there is difficulty aspirating the fluid from the balloon, cut the valve at its junction. Allow the fluid to drain fully before removing the catheter. For any further difficulty, consider consulting a urologist or urogynecologist.

Patient preparation

Thoroughly explain the procedure to patients and their families using a developmentally appropriate approach. Consider using a child life therapist if available. Develop a procedural pain/anxiety plan that includes age-appropriate nonpharmacologic and pharmacologic interventions.

Nonpharmacologic Interventions

- Pacifier with or without dextrose dip
- Therapeutic holding
- Security object
- Distraction
- Deep breathing
- Guided imagery

Recommended Actions

1. Do not test the silicone Foley catheter balloon by inflation and deflation before inserting.
2. Evaluate catheter necessity daily and document discussions and indications for continued use.
3. Develop standard work instructions and a clear process for escalating catheter insertion and care concerns.
4. Ensure providers maintain procedure competency and proficiency.

Resource

- [Solutions for Patient Safety, Catheter Associated Urinary Tract Infections \(CAUTI\) Operational Definition and Bundle](#)

References

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