

Catheter Maintenance

Milisa Manojlovich, PhD, RN

The table below lists catheter maintenance recommendations along with the sources of evidence for them. The sources can all be located in the “Supporting Evidence” section of our website.

Recommendation	Source(s)	Level of Evidence*
Drainage bag should never be lifted above the level of the bladder.	HICPAC/CDC; NICE guidelines; SHEA; IDSA guidelines	IB; D; A-III; A-II
For transport, first drain whatever urine is in the tube into the drainage bag.	Oman et al., (2012); Willson et al., (2009).	Expert opinion
Prior to transporting patient, empty the drainage bag and tubing to avoid urine reflux.	Newman (2007)	Expert opinion
If dependent drainage cannot be maintained, clamp the urinary drainage bag tube and remove the clamp as soon as dependent drainage can be resumed.	EPIC guidelines;	category 3
Drainage bag should never come into contact with the floor.	HICPAC/CDC; EPIC guidelines;	IB; category 3
Empty the collection bag regularly, using a separate, clean container for each patient; avoid splashing and prevent contact of the drainage spigot with the non-sterile collection container	HICPAC/CDC; EPIC guidelines; NICE guidelines; Scotland CAUTI maintenance bundle; SHEA;	IB; category 3; D; A - II

* Different sources use different classification systems for levels of evidence.

Levels of evidence:

IB = A strong recommendation supported by low quality evidence

Category 3 = limited scientific evidence including published expert opinion derived from “Systematically retrieved and appraised professional, national, and international guidelines” (EPIC guidelines).

Strength of Recommendation:

A = good; B = moderate; C = poor evidence

Quality of Evidence:

I = evidence from > 1 RCT; II = evidence from non- randomized clinical trial; III = evidence from opinions, based on clinical experience, descriptive studies, or expert committees.

In addition, Dr. Sanjay Saint, who is an international expert in reducing catheter-associated urinary tract infection, had this to say when asked about whether to empty a urine drainage bag prior to patient transport:

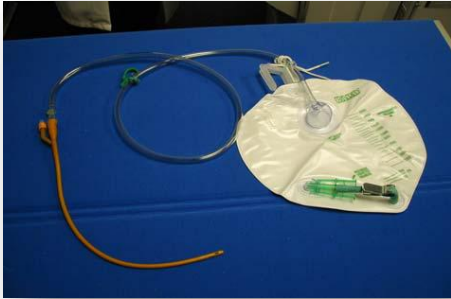
“If the bag is nearing the point that it will be need to be emptied (or if the patient is receiving IV fluids and/or diuretics and will likely have a brisk urinary output such that the drainage bag may become full of urine while the patient is away in radiology, for example), common sense and pathophysiological principles would favor emptying prior to transport. However, if there is minimal urine in the drainage bag (e.g., less than 100 cc) and it is unlikely that the patient will diurese while away, it is reasonable NOT to drain it prior to transport.”

We provide more details about catheter maintenance below:

Shift Assessment

- Once a shift, document ongoing need for catheter, based on criteria for catheterization.
- At shift change, include discussion of catheter necessity with oncoming nurse.
- Include discussion of catheter with physicians as part of “daily goals” checklist or patient care rounds.
- Document ongoing necessity of catheter on transfer checklist.
- Do not change catheter unnecessarily or as part of routine practice.

Closed Systems



- Ensure that the connection between the catheter and the urinary drainage system is not broken.
- If breaks in aseptic technique, disconnection, or leakage occur, replace the catheter and collecting system using aseptic technique and sterile equipment.
- Obtain any urine samples from a sampling port using an aseptic technique.
- Wash hands and wear a new pair of clean non-sterile gloves before manipulating a patient's catheter and wash hands again after removing gloves.

Securement



- Catheter should be secured in a comfortable position for the patient.

Daily Cleaning

- Routine personal hygiene only (i.e., wash urinary meatus with soap and water only).
- More frequent cleaning is indicated if the patient has diarrhea.

Single Patient Collection Devices

- Use a separate and clean container for each patient.
- Avoid contact between the urinary drainage spigot and container.
- Empty the urinary drainage bag frequently enough to maintain urine flow and prevent reflux.

Dependent Drainage/Drainage Bag Placement



- Drainage bag should never be lifted above the level of the bladder.
 - For transport, first drain whatever urine is in the tube into the drainage bag.
 - Prior to transporting patient, empty the drainage bag and tubing to avoid urine reflux.
- If dependent drainage cannot be maintained, clamp the urinary drainage bag tube and remove the clamp as soon as dependent drainage can be resumed.
 - Drainage bag should never come into contact with the floor.

Engagement of Patients/Families

- Involve patients/families in decision-making regarding catheterization; educate patients/families about need for catheter, based on indication.
- Teach patients/families to query physician every day about ongoing need for catheter.
- Educate patients/families to not empty drainage bag themselves or to remove the securement device.
- Instruct patients/families/significant others to keep drainage bag and tubing below the level of the bladder at all times.