

Nurse-Initiated Removal of Unnecessary Urinary Catheters in the Non-Intensive Care Units

(Based on a study performed at St. John Hospital and Medical Center in Detroit, Michigan)

November 2010

*This toolkit was funded by the Agency for Healthcare Research and Quality
(AHRQ).*

ACKNOWLEDGEMENTS

The updated toolkit was prepared by:

Mohamad G. Fakih, MD, MPH
Sanjay Saint, MD, MPH
Sarah Krein, RN, PhD
Russ Olmsted, MPH, CIC

Previous contributors to the earlier toolkit published February 2007 include: Cathleen Dueweke, RN, Susan Meisner, RN, Dorine Berriel-Cass, RN, MA, Ruth Savoy-Moore, PhD, Nicole Brach, RN, Laura Desantis, RN, MSN, and Louis Saravolatz, MD. The previous toolkit was supported by a grant from Ascension Health.

We thank the Infection Prevention & Control, Case Management, and Nursing Departments at St. John Hospital and Medical Center for their collaboration to make this process successful. Also special thanks to Janice Rey, MT(ASCP), CIC, Sam Watson, MSA, MT, Jane Forman, ScD, MHS, Christine Kowalski, MPH, Jennifer Meddings, MD, MS, and Milisa Manojlovich, PhD, RN, for their review and feedback of the toolkit. Also thanks to Rebecca Herman, BA for her secretarial assistance.

TABLE OF CONTENTS

A. PROGRAM SUMMARY.....	1
1. WHY PROMOTE APPROPRIATE USE OF URINARY CATHETERS.....	2
2. GOALS OF THE PROGRAM.....	2
3. HOW TO PROMOTE APPROPRIATE USE OF URINARY CATHETERS.....	2
B. URINARY CATHETER REMOVAL PROGRAM AT-A-GLANCE.....	4
C. HOW TO IMPLEMENT THE PROGRAM.....	6
1. PREPARE FOR THE PROGRAM.....	9
2. START THE PROGRAM.....	11
<i>a. Units to choose.....</i>	<i>12</i>
<i>b. Indications for urinary catheter utilization.....</i>	<i>16</i>
<i>c. Non-indications.....</i>	<i>20</i>
3. OBTAIN BASELINE DATA.....	24
<i>a. Data collection tool.....</i>	<i>25</i>
<i>b. Calculations.....</i>	<i>26</i>
4. IMPLEMENT THE PROGRAM.....	27
<i>a. Data collection tool.....</i>	<i>31</i>
<i>b. Calculations.....</i>	<i>32</i>
5. AFTER IMPLEMENTATION.....	33
<i>a. Data collection tool.....</i>	<i>34</i>
6. SUSTAIN THE PROGRAM.....	35
7. OPTIONAL TOOLS TO EVALUATE THE EFFECT OF THE PROGRAM.....	39
D. APPROPRIATE URINARY CATHETER USE AND MANAGEMENT.....	42
1. THE URINARY CATHETER.....	44
2. URINARY CATHETER UTILIZATION.....	46
3. CATHETER-ASSOCIATED URINARY TRACT INFECTION.....	47
4. INDICATIONS.....	51
5. NON-INDICATIONS.....	55
6. INSERTION AND MAINTENANCE OF URINARY CATHETERS.....	62
E. EVALUATION TEST.....	69
1. QUESTIONS.....	70
2. CORRECT ANSWERS.....	75
F. PROGRAM TIMELINE.....	80
G. DATA COLLECTION AND MEASUREMENTS.....	82
1. PROCESS AND OUTCOME MEASURES.....	83
2. DATA COLLECTION TOOLS.....	84

3. NHSN DEFINITION FOR SYMPTOMATIC CAUTI	89
H. POLICIES	100
1. BLADDER SCAN	101
2. URINARY CATHETERIZATION.....	104
I. TOOLS TO HELP PROGRAM CHAMPION.....	108
1. PRINTABLE EDUCATION MATERIAL.....	108
<i>a. Urinary Catheter Poster (option 1)</i>	109
<i>b. Urinary Catheter Poster (option 2)</i>	110
<i>c. Urinary Catheter Decision-Making Algorithm</i>	111
<i>d. Urinary Catheter Project Fact Sheet</i>	112
<i>e. Urinary Catheter Pocket Card</i>	113
<i>f. Urinary Catheter Brochure</i>	114
2. PRESENTATION TEMPLATES	116
<i>a. Presentation to manager</i>	116
<i>b. Presentation to nursing staff</i>	118
<i>c. Presentation of data</i>	120
3. SKIN CARE IN THE INCONTINENT PATIENT.....	121
4. HELPFUL HINTS	122
5. SAMPLE LETTERS.....	123
<i>a. Implementation of Urinary Catheter Initiative</i>	123
<i>b. Completion of staff education</i>	124
<i>c. Unit rounds to begin</i>	125
<i>d. Unit results</i>	126
J. REFERENCES	127

A. PROGRAM SUMMARY

1. Why promote the appropriate use of urinary catheters
2. Goals of the program
3. How to promote appropriate use of urinary catheters
4. Indications for urinary catheterization
5. How the program is implemented
6. Why it is expected to work
7. Sustaining results

Program Summary

Why must we improve the appropriateness of urinary catheter utilization?

Reasons why this is an important issue:

- Millions of urinary catheters are placed each year in the United States; urinary catheters are frequently used in the hospital setting. Urinary catheter use has been associated with urinary tract infections and trauma.
- Up to half of urinary catheter device days used in the hospital setting may not have a valid indication for use.
- Approximately 600,000 patients develop hospital-acquired urinary tract infections per year. 80% of these episodes are from a urinary catheter, thus these infections are called catheter-associated UTIs (CAUTIs).
- Hospital-acquired bacteriuria or candiduria occurs in 25% of those patients who have urinary catheters in place for one week. The risk per day of bacteriuria is about 5%; 3% of those with bacteriuria develop bloodstream infection.
- The longer the urinary catheter is used, the higher risk of infection.
- If the urinary catheter is not present, CAUTI does not occur.
- The cost of a hospital-acquired CAUTI averages between \$500 and \$1000. Catheter-related bacteremia increases the cost of care by an average of \$2800 per patient.

What are the goals of the program?

- Promote appropriate utilization of urinary catheters in the hospital's non-intensive care units. This is achieved by preventing the placement of unnecessary urinary catheters and promptly removing urinary catheters that are no longer needed.
- Reduce the risk of hospital-acquired urinary tract infections (secondary to a reduction in unnecessary urinary catheter use).
- Educate healthcare workers about the appropriate management of urinary catheters including indications for the placement and continued use of urinary catheters.

Expected immediate results:

- Reduction in urinary catheter utilization, reflected in a reduction in urinary catheter prevalence
- Increased awareness of appropriate indications for urinary catheter use

Expected longer term results:

- Reduction in bacteriuria
- Reduction in symptomatic urinary tract infections

How do we promote appropriate utilization of urinary catheters?

A healthcare worker champion is needed to help implement the program through educating nurses regarding the indications for urinary catheter utilization. The goal is to have the nurses evaluate the need of urinary catheters daily, and initiate the discontinuation process of urinary catheters that are no longer needed. The indications for urinary catheter use are based on the 2009 Healthcare Infection Control Practices Advisory Committee (HICPAC) guidelines.

What are the indications for urinary catheterization?

- Acute urinary retention or bladder outlet obstruction
- Accurate measurements of urinary output in critically ill patients
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- End-of-life comfort needs
- Required immobilization in cases of trauma or fractures

How is the program implemented?

We will initially obtain data on urinary catheter utilization on a specific unit, then implement the program and assess urinary catheter utilization. We will continue to have periodic evaluation of the utilization of urinary catheters.

- Baseline: 15 days of urinary catheter data collection with evaluation for indications
- Implementation: 10 days of urinary catheter data collection with evaluation for indications, nursing staff education, and advising removal of catheters that are unnecessary.
- Sustainability: Recommending urinary catheter prevalence once a day weekly for 6 weeks after implementation, then for 5 consecutive weekdays quarterly for 5 quarters.

Why is it expected to work?

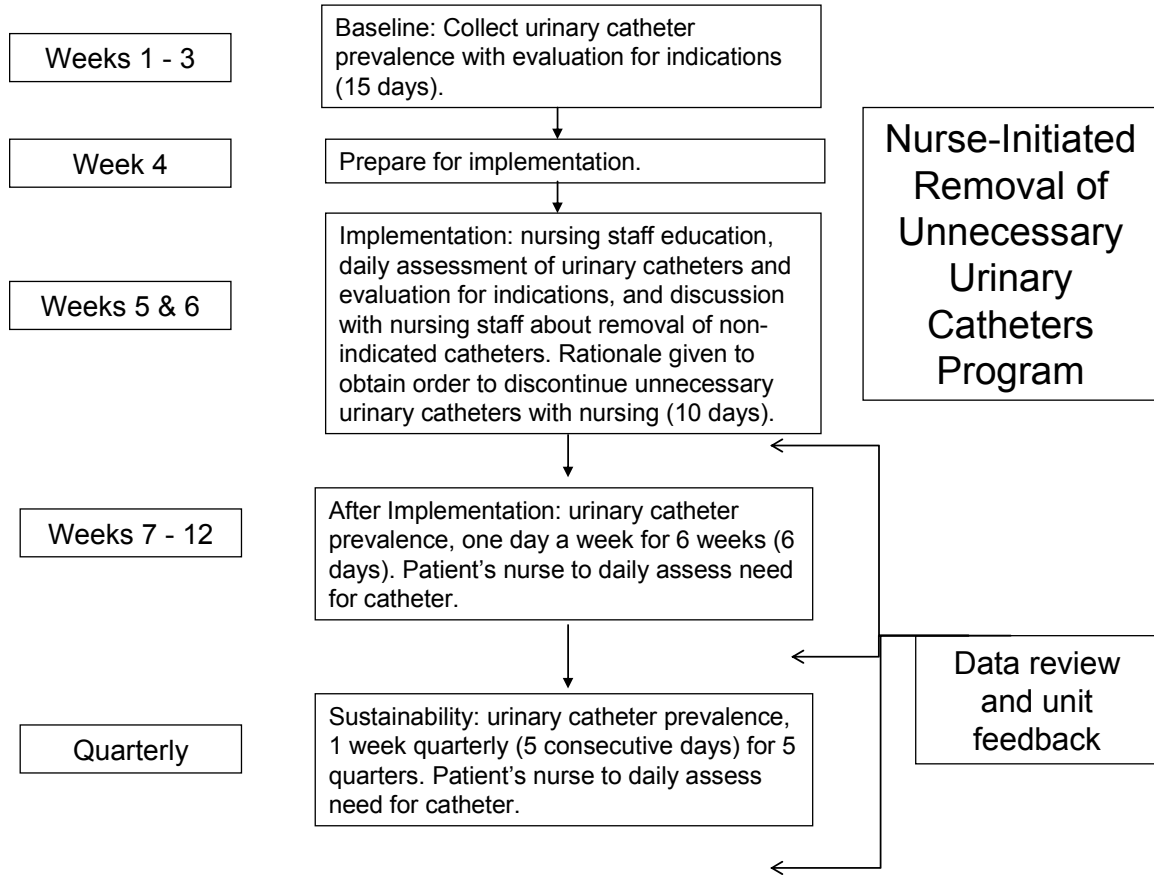
This approach has led to a reduction in urinary catheter use by about 20% at St. John Hospital and Medical Center in Detroit, Michigan and at participating units from about 70 Michigan hospitals enrolled in the Keystone: Hospital-Associated Infection project by Michigan Health & Hospital Association's Keystone Center for Patient Safety & Quality.

How do we sustain the results?

Efforts to sustain the effect of the program should focus on having a trained champion continue this effort on each of the units involved. Periodic feedback on performance to nurse managers related to prevalence of utilization is also needed.

B. URINARY CATHETER REMOVAL PROGRAM AT-A-GLANCE

B. URINARY CATHETER REMOVAL PROGRAM AT-A-GLANCE



C. HOW TO IMPLEMENT THE PROGRAM

1. Prepare for the program
2. Start the program
 - a. Unit to choose
 - b. Indications
 - c. Non-indications
3. Obtain baseline data
 - a. Data collection tool
 - b. Calculations
4. Implement the program
 - a. Data collection tool
 - b. Calculations
5. After implementation
 - a. Data collection tool
6. Sustain the program
7. Optional tools to evaluate the effect of the program

Nurse-Initiated Removal of Unnecessary Urinary Catheters:

How to Implement the Program

1

This presentation

- This presentation is for those who will be the main champions to promote the program at your facility. These include the nurse and physician leaders that support the program in addition to the healthcare worker champion that will be educating the nurses during the implementation.

2

Outline

1. Prepare for the program
2. Start the program
 - a. Unit to choose
 - b. Indications
 - c. Non-indications
3. Obtain baseline data
 - a. Data collection tool
 - b. Calculations
4. Implement the program
 - a. Implementation process
 - b. Data collection tool
 - c. Calculations
5. After implementation
 - a. Data collection tool
6. Sustainability
 - a. Data collection tool
7. Optional tools to evaluate the effect of the program

3

Effect of Nurse-Led Multidisciplinary Rounds on Reducing the Unnecessary Use of Urinary Catheterization in Hospitalized Patients

Mohamad G. Fakh, MD, MPH; Cathleen Dueweke, RN; Susan Meisner, RN; Dorine Berriel-Cass, RN, MA; Ruth Savoy-Moore, PhD; Nicole Brach, RN; Janice Rey, MT(ASCP); Laura DeSantis, RN, MSN; Louis D. Saravolatz, MD

(See the commentary by Cornia and Lipsky on pages 820–822)

OBJECTIVE. To determine the effect of nurse-led multidisciplinary rounds on reducing the unnecessary use of urinary catheters (UCs).

DESIGN. Quasi-experimental study with a control group, in 3 phases: preintervention, intervention, and postintervention.

SETTING. Twelve medical-surgical units within a 608-bed teaching hospital, from May 2006 through April 2007.

INTERVENTION. A nurse trained in the indications for UC utilization participated in daily multidisciplinary rounds on 10 medical-surgical units. If no appropriate indication for a patient's UC was found, the patient's nurse was asked to contact the physician to request discontinuation. Data were collected before the intervention (for 5 days), during the intervention (for 10 days), and 4 weeks after the intervention (for 5 days). Two units served as controls.

RESULTS. Of 4,963 patient-days observed, a UC was present in 885 (for a total of 885 "UC-days"). There was a significant reduction in the rate of UC utilization from 203 UC-days per 1,000 patient-days in the preintervention phase to 162 UC-days per 1,000 patient-days in the intervention phase ($P = .002$). The postintervention rate of 187 UC-days per 1,000 patient-days was higher than the rate during the intervention ($P = .05$) but not significantly different from the preintervention rate ($P = .32$). The rate of unnecessary use of UCs also decreased from 102 UC-days per 1,000 patient-days in the preintervention phase to 64 UC-days per 1,000 patient-days during the intervention phase ($P < .001$); and, significantly, the rate rose to 91 UC-days per 1,000 patient-days in the postintervention phase ($P = .01$). The rate of discontinuation of unnecessary UCs in the intervention phase was 73 (45%) of 162.

CONCLUSIONS. A nurse-led multidisciplinary approach to evaluate the need for UCs was associated with a reduction of unnecessary UC use. Efforts to sustain the intervention-induced reduction may be successful when trained advocates continue this effort with each team.

Infect Control Hosp Epidemiol 2008; 29:815–819

4

Prepare for the Program

5

Before Starting the Program

- Obtain leadership support:
 1. Administration
 2. Nursing
 3. Physician
- Identify both nurse and physician leaders to be the point people for the program at the hospital.
- Nursing: potential candidates include nursing director, or a very effective nurse manager/charge nurse
- Physician: the physician with interest in improving safety/quality (for example, an Infectious Diseases specialist, urologist, or hospitalist)

6

Before Starting the Program

- Hospital leadership will make sure that nurse and physician leaders know the program is a priority for the hospital.
- Hospitals involved should have a structure in place for daily nursing rounds to use the program.
- Nursing leadership will relate information about the planned program to nurse managers and nurses.
- Physician leadership will inform physicians about the planned program and encourage them for supporting it.

7

How to Start the Program

- Partner with nursing, case management, infection prevention, and physicians.
- Evaluate areas with high prevalence of utilization.
- Use point prevalence to help decide initial units.
- Start with one general medical/surgical unit.

8

Starting the Program

9

Program Plan

- Select unit(s) to begin the project. Evaluate units that have the highest urinary catheter utilization using point prevalence.
 1. Baseline data collection
 2. Implementation: educate nurses regarding when the urinary catheter is necessary and encourage them to initiate removal of urinary catheter if no indications are present for use
 3. After implementation: collect data on utilization of urinary catheters and feedback to units involved
 4. Sustainability: sustainability through continued periodic data collection and feedback to units involved

10

Deciding Which Unit to Begin Program

1. Evaluate unit(s) with high prevalence and/ or unit(s) with increased non-indicated urinary catheter use.
2. Choose a unit with an effective unit manager (complete support of the unit leader is usually needed to be successful).

11

Perform Point Prevalence

- Perform point prevalence on all general medical units at your hospital to determine which units have the highest utilization of urinary catheters.
- Point Prevalence= (Number of urinary catheters/ Number of patients at one point in time) x100
- Example: During nurse shift change, count all urinary catheters in use and then count the number of patients on the unit.

12

Point Prevalence: Example

- Look at multiple units and decide the most feasible unit to start with:
- Unit B has the highest prevalence.

	# of Urinary Catheters	# of Patients	Prevalence
Unit A	6	32	19%
<u>Unit B</u>	<u>10</u>	<u>29</u>	34%
Unit C	4	30	13%

13

How Many Units to Start?

- One or two units?
 - (depends on your resources)
- For a prevalence of 20%, units with 30 patients will have 6 patients with indwelling urinary catheters.

14

Label Variables

- Urinary catheter present: present (1), absent (0)
- Urinary catheter indicated: yes (1), no (0)
- Indications vs. non-indications for urinary catheter use are based on the new HICPAC guidelines.

15

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY APRIL 2009, VOL. 34, NO. 4

HICPAC GUIDELINE

Guideline for Prevention of Catheter-Associated Urinary Tract Infections 2009

Carolyn V. Gould, MD, MSCR; Craig A. Umscheid, MD, MSCE; Rajender K. Agarwal, MD, MPH; Gretchen Kuntz, MSW, MSLIS; David A. Pegues, MD; and the Healthcare Infection Control Practices Advisory Committee (HICPAC)

TABLE 2. Examples of Appropriate and Inappropriate Indications for Indwelling Urethral Catheter Use

A. Examples of <i>appropriate</i> indications for indwelling urethral catheter use	
Patient has acute urinary retention or bladder outlet obstruction	
Need for accurate measurements of urinary output in critically ill patients	
Perioperative use for selected surgical procedures:	
Patients undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract	
Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in post-anesthesia care unit)	
Patients anticipated to receive large-volume infusions or diuretics during surgery	
Need for intraoperative monitoring of urinary output	
To assist in healing of open sacral or perineal wounds in incontinent patients	
Patient requires prolonged immobilization (eg, potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures)	
To improve comfort for end-of-life care if needed	
B. Examples of <i>inappropriate</i> uses of indwelling catheters	
As a substitute for nursing care of the patient or resident with incontinence	
As a means of obtaining urine for culture or other diagnostic tests when the patient can voluntarily void	
For prolonged postoperative duration without appropriate indications (eg, structural repair of urethra or contiguous structures, prolonged effect of epidural anaesthesia, etc)	

NOTE. These indications are based primarily on expert consensus.

16

Two Issues to Clarify

1. Accurate measurement of urinary output in the critically ill patients: this applies to the intensive care setting. This program addresses patients in the non-intensive care setting, thus this indication is not used for patients in the non-intensive care units.

17

Two Issues to Clarify

2. Chronic indwelling urinary catheter (defined as present for >30 days): it is not infrequent to see patients admitted from extended care facilities with a chronic urinary catheter without being able to find the reason for initial placement when assessed. We suggest that these patients represent a special category and may need a different assessment for the appropriateness of catheterization. We consider them to have and acceptable urinary catheter use in the hospital.

18

Label Variables: Acceptable Indications for Urinary Catheter Placement

- Acute urinary retention or obstruction = 1
- Perioperative use in selected surgeries = 2
- Assist healing of perineal and sacral wounds in incontinent patients = 3
- Hospice/comfort/ palliative care = 4
- Required immobilization for trauma or surgery = 5
- Chronic indwelling urinary catheter on admission = 6
- Accurate measurement of urinary output in the critically ill patients =7

19

Acute Urinary Retention or Obstruction = 1

- Outflow obstruction: examples include prostatic hypertrophy with obstruction, urethral obstruction related to severe anasarca, urinary blood clots with obstruction
- Acute urinary retention: may be medication-induced, medical (neurogenic bladder) or related to trauma to spinal cord

20

Perioperative Use in Selected Surgeries = 2

- Anticipated prolonged duration of surgery, large volume infusions during surgery, or need for intraoperative urinary output monitoring
- Urologic surgery or other surgery on contiguous structures of the genitourinary tract
- Spinal or epidural anesthesia may lead to urinary retention (prompt discontinuation of this type of anesthesia should prevent need for urinary catheter placement)

21

Assist Healing of Perineal and Sacral Wounds in Incontinent Patients = 3

- This is a relative indication when there is concern that urinary incontinence is leading to worsening skin integrity in areas where there is skin breakdown.

22

Hospice/Comfort Care/Palliative Care = 4

- Patient comfort at end-of-life is a relative indication.

23

Required Immobilization for Trauma or Surgery = 5

- Including:
 1. Unstable thoracic or lumbar spine
 2. Multiple traumatic injuries, such as pelvic fractures
 3. Acute hip fracture with risk of displacement with movement

24

Chronic Indwelling Urinary Catheter on Admission = 6

- Patients from home or an extended care facility with a chronic urinary catheter

25

Accurate measurement of urinary output in the critically ill patients =7

- Applies to patients in the intensive care setting

26

Unacceptable Reasons for Placement

- Urine output monitoring OUTSIDE the intensive care unit = 8
- Incontinence without a sacral or perineal pressure sore = 9
- Prolonged postoperative use = 10
- Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)

27

Urine Output Monitoring OUTSIDE Intensive Care = 8

- Monitoring of urine output in patients with congestive heart failure receiving diuretics is not an indication for urinary catheter placement.

28

Incontinence without a Sacral or Perineal Pressure Sore = 9

- Incontinence should not be a reason for urinary catheter placement. Patients admitted from home or from extended care facilities with incontinence managed their incontinence without problems prior to admission. Mechanisms to keep the skin intact need to be in place. Avoid urinary catheter placement in these patients.

29

Prolonged Postoperative Use = 10

- Prompt discontinuation of the urinary catheter (within 24 hours of surgery) is recommended unless other indications are present.

30

Other Non-Indicated Reasons = 11

- Including:
 1. Patients transferred from intensive care to floor
 2. Morbid obesity
 3. Immobility
 4. Confusion or dementia
 5. Patient request

31

Morbid Obesity and Immobility

- Morbid obesity should not be a trigger for urinary catheter placement. Patients that are morbidly obese have functioned without a urinary catheter prior to admission. The combination of immobility and morbid obesity may lead to inappropriate urinary catheter use. This however, may lead to more immobility with the urinary catheter being a “one-point restraint.”

32

Confusion or Dementia

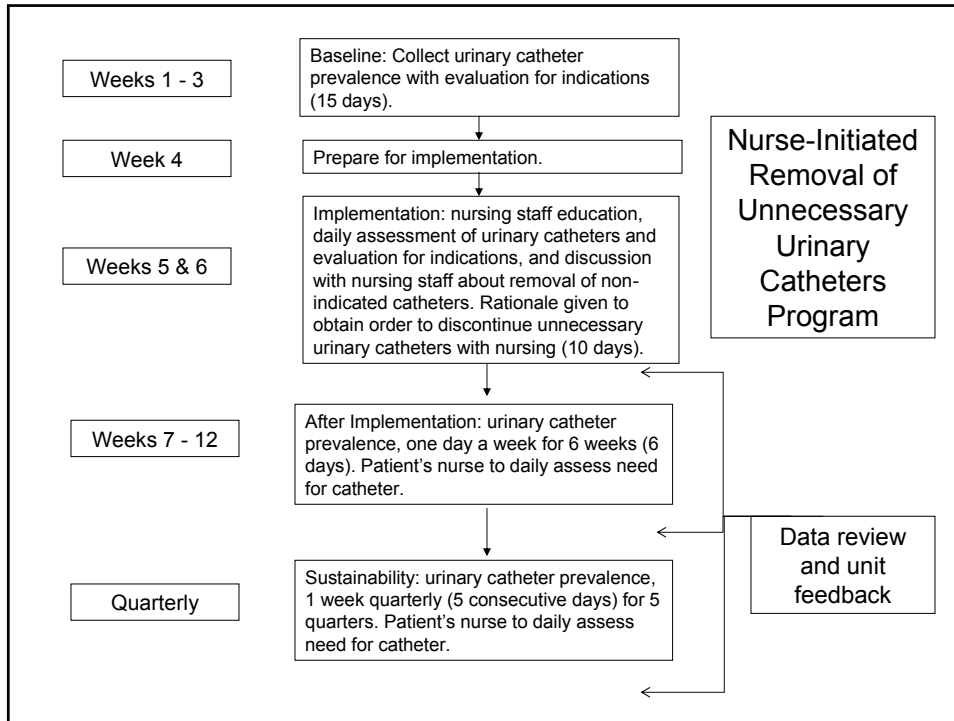
- Patients with confusion or dementia should not have a urinary catheter placed unless there is an indication for placement (numbers 1-7).

33

Patient Request

- Patient request should not be the reason for placement of unnecessary urinary catheters. Explain to the patients the risk of infection, trauma, and immobility related to the use of the urinary catheter. The only exception is in patients that are receiving end-of-life or palliative care (reason 4).

34



Baseline Data

Baseline: Weeks 1-3

- For baseline data, collect 15 working days of urinary catheter prevalence.
- Evaluate the need for urinary catheters.
- Determine the reason for all urinary catheters used.

37

Baseline Data Collection Tool

Unit		Urinary Catheter Prevalence Sheet		
Date				
Weeks 1 - 3	Baseline	Urinary Catheter present	Indicated?	Indication
Room/bed	Patient #			

No = 0
Yes = 1

Non-Indicated = 0
Indicated = 1

Indications:
 Acute urinary retention or obstruction = 1
 Perioperative use in selected surgeries = 2
 Perineal and sacral wounds in incontinent patients = 3
 Hospice/comfort/ palliative care = 4
 Required immobilization for trauma or surgery = 5
 Chronic indwelling urinary catheter on admission = 6
 Accurate measurement of urinary output in the critically ill patients = 7

Not Indicated Urinary Catheters Reasons:
 Urine output monitoring OUTSIDE intensive care = 8
 Incontinence without a sacral or perineal pressure sore = 9
 Prolonged postoperative use = 10
 Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)

38

Calculations

- Urinary catheter prevalence=

$$\frac{\text{Number of urinary catheter-days}}{\text{Total number of patient-days}} \times 100$$
- Non-indicated urinary catheter-days % =

$$\frac{\text{Number of non-indicated urinary catheter-days}}{\text{Total number of urinary catheter-days}} \times 100$$

39

Baseline (e.g., Week 1): Urinary Catheter Prevalence

	Mon	Tues	Wed	Thurs	Fri	Total
Number of Urinary Catheters	9	9	8	6	5	37
Number of Patients	24	25	25	25	24	123
Prevalence						30%

- Urinary Catheter Prevalence= $(37 \div 123) \times 100 = 30\%$
- Note: need to collect data for 3 weeks for baseline period

40

Baseline: Non-Indicated Urinary Catheter-days

	Mon	Tues	Wed	Thurs	Fri	Total
Number of Urinary Catheters	9	9	8	6	5	37
Number of Non-Indicated Urinary Catheters	6	5	4	4	2	21
Number of Patients	24	25	25	25	24	123

- Non-indicated urinary catheter-days % = $21 \div 37 \times 100 = 57\%$

41

Implementation

42

Implementation

- Educate nursing staff on appropriate urinary catheter utilization.
- This may include providing them with printed educational material, lectures, posters, pocket cards.
- The most important education occurs during rounds where the healthcare worker champion discusses the appropriate indications for urinary catheter use with the nurses

43

Implementation

- A healthcare worker champion (usually a nurse, alternatively an infection preventionist, or quality improvement healthcare worker who is knowledgeable of indications for urinary catheter utilization) participates in daily nursing rounds.
- Members of nursing rounds may include:
 1. Nurse Manager (or charge nurse)
 2. Case Manager (or discharge planner)
 3. Social Worker
 4. Bedside nurses assigned to patients

44

Implementation

- During nursing rounds, each patient is assessed for urinary catheter presence. The nurses are educated regarding the indications for urinary catheter utilization. If the patient has a urinary catheter, the reasons for use are reviewed with the nurse caring for the patient.
- If there are no valid indications for the urinary catheter, the nurse is asked to contact the physician to discontinue the urinary catheter.
- Key Factor for Success: a nurse manager who supports this initiative and holds the nursing staff accountable for removing non-indicated urinary catheter.

45

Implementation

- Each unit needs to have a facilitator who will take the responsibility to reinforce the process after the initial intervention is completed to ensure sustainability.
- A case manager or discharge planner may be considered for the facilitator role after implementation.
- Other potential facilitators include a unit nurse champion with interest in patient safety or the charge nurse.

46

Implementation

- The patient's nurse will be coached to own the process of evaluating whether the patient has a urinary catheter placed, and to evaluate the need for the catheter.
- The patient's bedside nurse should note the catheter's presence and evaluate the indication during the patient's daily nursing assessment. This will be continued after implementation.
- The process may be enforced by integrating it into the patient's daily nursing assessment

47

Week 4

- Prepare for the implementation:
- May start educating nurses; for example, may provide lectures, distribute posters and cards to the nurses.

48

Implementation: Weeks 5 & 6

- During Weeks 5 & 6: 10 days of urinary catheter prevalence collection with evaluation of need, nursing staff education, and suggestion to discontinue non-indicated urinary catheters.

49

Intervention Collection Tool: Weeks 5 & 6

Unit		Urinary Catheter Prevalence Sheet			
Date					
Week 5 & 6	Implementation				
Room/bed	Patient #	Urinary Catheter Present	Indicated?	Indication	
		No = 0 Yes = 1	Non-indicated = 0 Indicated = 1		
		<div style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p>Indications: Acute urinary retention or obstruction = 1 Perioperative use in selected surgeries = 2 Perineal and sacral wounds in incontinent patients = 3 Hospice/comfort/ palliative care = 4 Required immobilization for trauma or surgery = 5 Chronic indwelling urinary catheter on admission = 6 Accurate measurement of urinary output in the critically ill patients = 7</p> <p>Not Indicated Urinary Catheters Reasons: Urine output monitoring OUTSIDE intensive care = 8 Incontinence without a sacral or perineal pressure sore = 9 Prolonged postoperative use = 10 Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)</p> </div>			

50

Implementation: Prevalence rate

	Mon	Tues	Wed	Thurs	Fri	Total
Week 5						
# of Urinary Catheters	6	6	5	5	5	27
# of Patients	25	25	26	25	24	125
Week 6						
# of Urinary Catheters	8	8	7	6	4	33
# of Patients	24	26	25	25	21	121

Prevalence rate = $[(27+33) \div (125+121)] \times 100 = 24 \%$

51

Implementation: Rate of Non-Indicated Catheters

	Mon	Tues	Wed	Thurs	Fri	Total
Week 5						
# of Urinary Catheters	6	6	5	5	5	27
# of Non-Indicated Urinary Catheters	4	3	1	1	1	10
# of Patients	25	25	26	25	24	125
Week 6						
# of Urinary Catheters	8	8	7	6	4	33
# of Non-Indicated Urinary Catheters	2	2	1	3	2	10
# of Patients	24	26	25	25	21	121

Non-indicated urinary catheter-days % =
 $[(10+10) \div (27+33)] \times 100 = 33\%$

52

After Implementation

- Immediately follows implementation

53

After Implementation

- A champion from the unit will promote appropriate urinary catheter utilization on the unit; this will be encouraged through daily nursing rounds.
- Units involved will receive feedback on the results of program implementation.
- Perform urinary catheter prevalence one day a week for 6 weeks (weeks 7 - 12).

54

After Implementation

- The patient's bedside nurse should note the catheter's presence and evaluate the indication during the patient's daily nursing assessment.
- This is incorporated into the patient's nurse daily assessment.
- The patient's nurse will initiate the urinary catheter discontinuation process if there are no appropriate indications for utilization present.

55

After Implementation: Data Collection Tool

Unit		Urinary Catheter Prevalence Sheet				
Date						
Weeks 7-12	After Implementation					
Room/bed	Patient #	Urinary catheter present				

No=0
 Yes=1

56

After Implementation

- Prevalence may be calculated by adding the number of urinary catheters used over the 6 days, divided by the total patient days (6 days) during that period (weeks 7 - 12)

57

Sustainability

- The patient's bedside nurse should note the catheter's presence and evaluate the indication during the patient's daily nursing assessment.
- This is incorporated into the patient's nurse daily assessment.
- The patient's nurse will initiate the urinary catheter discontinuation process if there are no appropriate indications for utilization present.

58

Sustainability

- Collect quarterly urinary catheter prevalence data for 5 consecutive weekdays for 5 quarters.
- Provide feedback and current results to units (urinary catheter utilization).
- If no improvement from the baseline is seen, then evaluate the unit for reeducation and re-implementation of the program.

59

Sustainability: Data Collection Tool

Unit	Urinary Catheter Prevalence Sheet					
Date						
Quarterly	Sustainability					
5 days						
Room/bed	Patient #	Urinary catheter present				

60

Important Issues

- A continued reduction in urinary catheter utilization may be a marker of the program's success.
- If no significant improvement is noted after implementation, you may need to reexamine whether or not compliance with indications has decreased.
- The risk of urinary tract infection increases the longer the urinary catheter is present. A single patient who has a urinary catheter placed without indication for a prolonged period of time may affect your effort significantly.
- For the baseline and implementation periods, measure daily encounters (for the same patient, the non-compliance with indications will be counted daily until the urinary catheter is removed).

61

Important Issues, continued

- The intensive care units have a high prevalence of urinary catheter utilization. Utilization may be significantly reduced on the general medical-surgical units if patients transferred out of the intensive care units are evaluated for catheter necessity.
- The emergency department and the operating room are areas where a large number of urinary catheters are placed. Addressing the appropriateness of placement of urinary catheters in the emergency department and promoting removal of the urinary catheters post-operatively in the recovery area may also help reduce unnecessary urinary catheter use.

62

How to Get Successful Results

- Both nurses and physicians should evaluate the indications for urinary catheter utilization.
- Physicians should promptly discontinue catheters when no longer needed.
- Nurses evaluating catheters and finding no indication should contact the physician to promptly discontinue the catheter.
- Partner with different disciplines (e.g., case management, nursing, infection prevention) to successfully achieve your goals.

63

How to Sustain Your Success

- After implementing the program, identify unit champions to promote the need to evaluate the appropriateness of urinary catheter use.
- Incorporate the following questions during nursing rounds:
 - Does the patient have a urinary catheter?
 - What is the reason for use?
- Provide feedback on performance to nurse managers related to prevalence of utilization.
- If no improvement in utilization is seen, evaluate appropriateness of utilization (indications vs. non-indications).
- The long term goal is for the patient care nurses to own the process of evaluation of urinary catheter need.

64

Additional Areas to Address

- Leadership support is crucial.
- Define barriers to implementation.
- Obtain physician and nursing buy-in.
- Provide alternatives to the “Foley” catheter.
- Look closely at the emergency department and intensive care units. Both areas utilize a high number of urinary catheters.

65

Optional Tools and Calculations

- These may be used in conjunction to what is reported to Care Counts but are not required.

66

Evaluating Effects of the Implementation

- Optional: Evaluate the impact of the intervention on discontinuation of catheters. All non-indicated urinary catheters should have a recommendation for discontinuation → (calculate discontinuation rate for non-indicated urinary catheter).
- The discontinuation rate may help evaluate how successful you are at removing the unnecessary urinary catheters.
- Discontinuation rate of non-indicated urinary catheter =
$$\frac{\text{Number of non-indicated urinary catheters discontinued}}{\text{All cases of urinary catheter evaluated without indication}} \times 100$$

67

Implementation: Weeks 5 & 6

- Optional: During implementation phase, you may evaluate the compliance with the recommendations to discontinue unnecessary urinary catheters. This is captured in the data collection (discontinued = 1; not discontinued = 0).

68

Intervention Collection Tool: Weeks 5 & 6

Unit	Urinary Catheter Prevalence Sheet				
Date					
Week 5 & 6	Implementation				
Room/bed	Patient #	Urinary Catheter Present	Indicated?	Indication	Discontinuation
			No = 0 Yes = 1	Non-indicated = 0 Indicated = 1	

Indications:
 Acute urinary retention or obstruction = 1
 Perioperative use in selected surgeries = 2
 Perineal and sacral wounds in incontinent patients = 3
 Hospice/comfort/ palliative care = 4
 Required immobilization for trauma or surgery = 5
 Chronic indwelling urinary catheter on admission = 6
 Accurate measurement of urinary output in the critically ill patients = 7

Not Indicated Urinary Catheters Reasons:
 Urine output monitoring OUTSIDE intensive care = 8
 Incontinence without a sacral or perineal pressure sore = 9
 Prolonged postoperative use = 10
 Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)

Optional: if you want to track discontinuation following your recommendation
 No = 0, Yes = 1

Discontinuation Rate of Non-Indicated Urinary Catheters

		Mon	Tues	Wed	Thurs	Fri	Total
Week 5	Recommend Discontinuation	4	3	1	1	1	10
	Catheter Discontinuation	0	2	1	1	1	5
Week 6	Recommend Discontinuation	2	2	1	3	2	10
	Catheter Discontinuation	0	2	1	1	1	5

Discontinuation rate = $[(5+5) \div (10+10)] \times 100 = 50\%$

D. APPROPRIATE URINARY CATHETER USE AND MANAGEMENT

1. The urinary catheter
2. Urinary catheter utilization
3. Catheter-associated urinary tract infection
4. Indications for urinary catheter utilization
5. Non-indications for urinary catheter utilization
6. Insertion and maintenance of urinary catheters

Appropriate Urinary Catheter Use and Management

Nursing Education Material

1

This presentation

- This presentation is intended for all nurses with patient care responsibilities including the unit manager and the clinical nurse leader of the unit involved. A test to evaluate knowledge post-presentation is also available.

2

Outline

- The urinary catheter
- Urinary catheter utilization
- Catheter-associated urinary tract infection
- Indications for urinary catheter utilization
- Non-indications for urinary catheter utilization
- Insertion and maintenance of urinary catheters

3

Urinary Catheter

- Dr. Frederick Foley developed the urinary catheter in the 1920s.
- The urinary catheter was originally an open system with the urethral tube draining into an open container.
- In the 1950s, a closed system was developed in which the urine flowed through a catheter into a closed bag.

4

Closed System Urinary Catheter



5

Urinary Catheter Prevalence

- On medical-surgical units: 10-30%
- Intensive care units: 60-90%

Gokula, Am J Infect Control 2004;32:196-9
Apisarnthanarak, Am J Infect Control 2007;35:594-9
Edwards, Am J Infect Control 2007;35:290-301

6

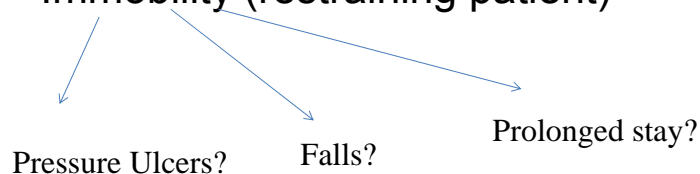
Urinary Catheter Utilization

- About 15 - 25% of patients will have a urinary catheter placed during their hospitalization.
- Many are placed either in the intensive care unit, emergency department or the operating room.
- 40% - 50% of patients from non-intensive medical and surgical units may not have a valid indication for urinary catheter placement.

7

Urinary catheters are not harmless...

- Urinary tract infection
- Mechanical trauma to urethra and bladder
- Immobility (restraining patient)*



*Saint S, Ann Intern Med 2002; 137: 125-7

8

Hospital-Acquired UTI: Prevalence

- 600,000 patients develop hospital-acquired UTIs per year.
- Catheter-associated infections (CAUTI) comprise 80% of these cases.
- UTIs account for 40% of all hospital-acquired infections.

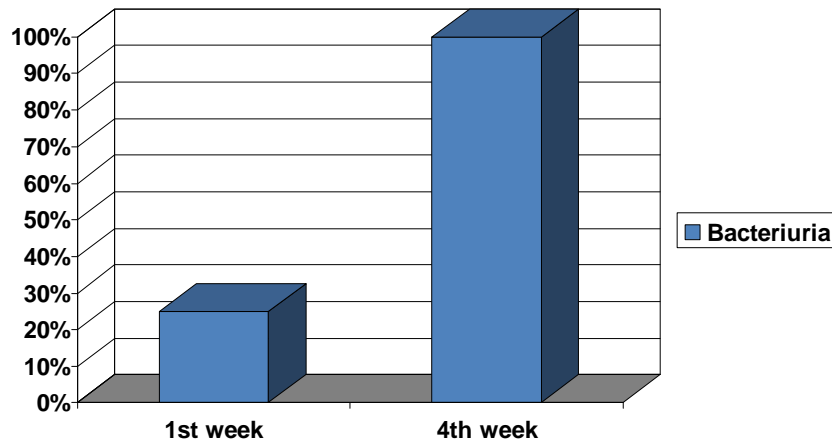
9

Catheter-Associated UTI (CAUTI)

- Catheter risk of bacteriuria increases each day of use:
 - Per day: ~5%
 - 1 week: ~25%
 - 1 month: ~100%

10

Catheter-Associated Bacteriuria



11

Biofilm: Extracellular Polymers

(Donlan, CID 2001; 33:1387-92, Liedl, Curr Opinion Urol 2001;11: 75-9)

- Organisms attach to and grow on a surface and produce extracellular polymers.
- Intraluminal ascent (48hours) of bacteria is faster than extraluminal (72-168 hours).
- Most catheters used for more than 1 week have biofilms.
- Extraluminal is more important in women.

12

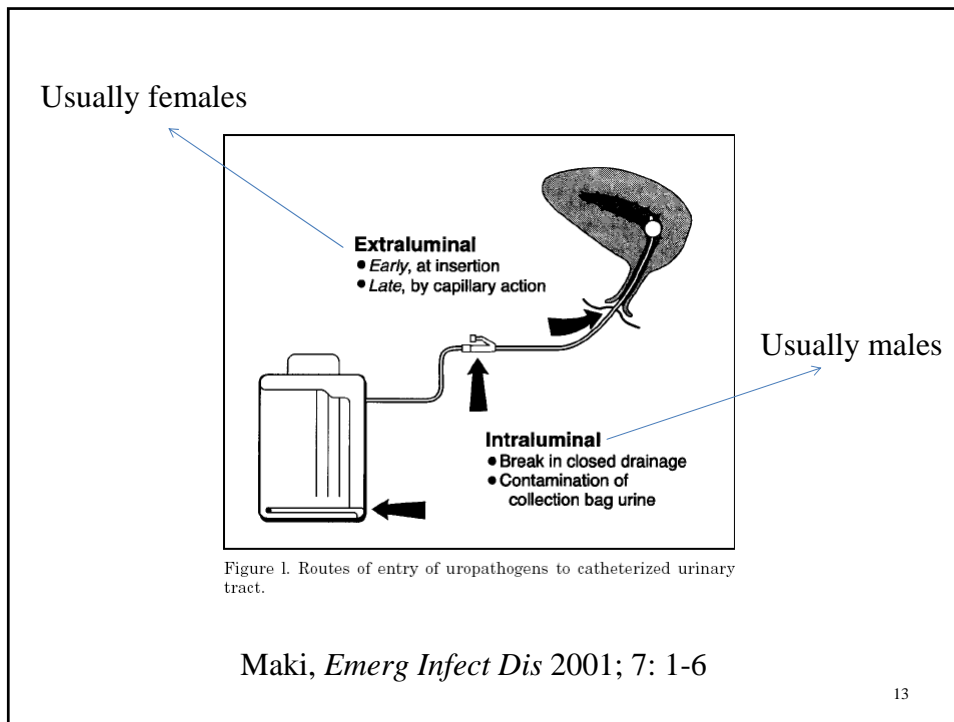


Table 3. Risk factors for catheter-associated urinary tract infection, based on prospective studies and use of multivariable statistical modeling (27-30)

Factor	Relative risk
Prolonged catheterization >6 days	5.1-6.8
Female gender	2.5-3.7
Catheter insertion outside operating room	2.0-5.3
Urology service	2.0-4.0
Other active sites of infection	2.3-2.4
Diabetes	2.2-2.3
Malnutrition	2.4
Azotemia (creatinine >2.0 mg/dL)	2.1-2.6
Ureteral stent	2.5
Monitoring of urine output	2.0
Drainage tube below level of bladder and above collection bag	1.9
Antimicrobial-drug therapy	0.1-0.4

Maki, *Emerg Infect Dis* 2001; 7: 1-6

14

Bacteriologic Monitoring

- Not recommended for asymptomatic patients
- Only culture the urine if the patient has symptoms of a UTI such as fever, chills, and abdominal pain
- Cloudy urine ≠ infection
- Sediment in urine ≠ infection
- Smelly urine ≠ infection

15

Asymptomatic Bacteriuria

- No benefit from treatment
- Increased risk of resistance and *C. difficile* disease with treating asymptomatic bacteriuria
- Pyuria does not equal infection when catheter present.
- Avoid urine cultures unless patient is symptomatic or if it is a part of sepsis workup in a catheterized patient.

16

Keep the urinary catheter bag
lower than the patient!!!



17

Acceptable Indications for Urinary Catheter Placement

- Acute urinary retention or obstruction
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/comfort care/palliative care
- Required immobilization for trauma or surgery
- Accurate measurement of urinary output in **critically ill pts**
- Chronic indwelling catheter on admission

18

Acute Urinary Retention or Obstruction

- Outflow obstruction: examples include prostatic hypertrophy with obstruction, urethral obstruction related to severe anasarca, urinary blood clots with obstruction
- Acute urinary retention: may be medication induced, medical (neurogenic bladder) or related to trauma to spinal cord

19

Perioperative Use in Selected Surgeries

- Anticipated prolonged duration of surgery, large volume infusions during surgery, or need for intraoperative urinary output monitoring
- Urologic surgery or other surgery on contiguous structures of the genitourinary tract
- Spinal or epidural anesthesia may lead to urinary retention (prompt discontinuation of this type of anesthesia should prevent need for urinary catheter placement)

20

Assist Healing of Perineal and Sacral Wounds in Incontinent Patients

- This is a relative indication when there is concern that urinary incontinence is leading to worsening skin integrity in areas where there is skin breakdown.

21

Hospice/Comfort Care/Palliative Care

- Patient comfort at end-of-life is a relative indication.

22

Required Immobilization for Trauma or Surgery

- This includes:
 1. Unstable thoracic or lumbar spine
 2. Multiple traumatic injuries such as pelvic fractures
 3. Acute hip fracture with risk of displacement with movement

23

Accurate measurement of urinary output in the critically ill patients =7

- Applies to patients in the intensive care setting

24

Chronic Indwelling Urinary Catheter on Admission

- Patients from home or an extended care facility with a chronic urinary catheter

25

Unacceptable Reasons for Placement

- Urine output monitoring OUTSIDE intensive care
- Incontinence without a sacral or perineal pressure sore
- Prolonged postoperative use
- Morbid obesity
- Immobility
- Confusion or dementia
- Patient request

26

Urine Output Monitoring OUTSIDE Intensive Care

- Monitoring of urine output in patients with congestive heart failure receiving diuretics is not an indication for urinary catheter placement.
- Potential solutions:
 1. Use urinals for men and hats for women (to monitor output)
 2. Accurate daily weights

27

Urine Output Monitoring OUTSIDE Intensive Care

- For patients with congestive heart failure, consider involving the patients themselves.
- Provide patients with information instructing how to document their output and daily weights (consider pamphlets).
- Providing information will also help the patients learn to accurately measure their output.

28

Incontinence without a Sacral or Perineal Pressure Sore

- Incontinence should not be a reason for urinary catheter placement. Patients admitted from home or from extended care facilities with incontinence managed their incontinence without problems prior to admission. Mechanisms to keep the skin intact need to be in place. Avoid urinary catheter placement in these patients.

29

Incontinence: Potential Solutions

- Use skin barrier creams for protection.
- Start toilet training:
 - Offer use of bedpan or assist patient up to commode regularly.
- Evaluate any wet bed linen and change if it is wet when the patient is being turned in bed.

30

Prolonged Postoperative Use

- Prompt discontinuation of the urinary catheter (within 24 hours of surgery) is recommended unless other indications are present.

31

Morbid Obesity and Immobility

- Morbid obesity should not be a trigger for urinary catheter placement. Patients that are morbidly obese have functioned without a urinary catheter prior to admission. The combination of immobility and morbid obesity may lead to inappropriate catheter use. This may result in more immobility with the urinary catheter being a “one-point restraint.”

32

Immobility: Potential Solutions

- Start toilet training every 2 hours
- Offer bedpan, urinal or assist patient out of bed

33

Confusion or Dementia

- Patients with confusion or dementia should not have a urinary catheter placed unless there is an indication for placement.

34

Patient Request

- Patient request should not be the reason for placement of unnecessary urinary catheters. The only exception is in patients that are receiving end-of-life or palliative care.
- Patient's Convenience:
 - Example: a patient is on diuretics and does not want to move out of bed multiple times.
 - Education is key! Provide reasons to the patient of increased risk of a urinary catheter: urine infection, skin breakdown, and deep venous thrombosis due to immobility.

35

Increased Work Load for Healthcare Workers (HCW)

- Increased acuity of patients or reduction of the nurse-to-patient ratio
 - e.g., patient is incontinent and immobile and requires multiple changes of sheets
- Potential solutions: link the program to other initiatives (e.g., pressure ulcer prevention requires frequent repositioning of patients), evaluate the nurse-to-patient ratio, or shift resources to support the HCW that has more responsibilities

36

Obtaining Urinary Specimens

- Discourage urinary catheter use for specimen collection.
- Consider straight catheterization if the patient is unable to void or is incontinent.

37

Reminder for Appropriate Urinary Catheter Use

- Avoid urinary catheter use if not indicated.
- Try to discontinue the catheter promptly when catheter is unnecessary.
- The longer the catheter is present, the higher the risk of infection!
- The urinary drainage system should always remain a closed system.

38

Additional Tools to Reduce Inappropriate Urinary Catheter Use

- Bladder scanner: if available, may check if patient has urinary retention. This may avoid urinary catheter insertion or straight catheterization.
- Condom catheters: may be used for men with incontinence with risk of skin breakdown (e.g., pressure ulcers), or for accurate urine output monitoring in intensive care. Condom catheters cannot be used if the patient has urinary retention.

39

Insertion and Maintenance of Urinary Catheters

- Hand hygiene before and after placement
- Aseptic technique and use of sterile equipment
- Sterile gloves, drape, an antiseptic solution for periurethral cleaning, and a single packet of lubricant for insertion

40

Maintain Sterile Technique



Perform good hand hygiene before and after procedure.



Use sterile gloves before procedure.

41

Placement of Urinary Catheter

- Use smallest catheter size effective for patient (14 or 16F).
- Catheters should be properly secured to prevent movement and urethral traction.



42

Maintenance of Urinary Catheters

- If there is a break in sterile technique, or leak from the closed system, replace the urinary catheter and the drainage system.
- Make sure urinary flow is not obstructed:
 1. No kinks of the catheter
 2. Urinary bag should always be lower than the bladder
 3. Regular emptying of urinary bag

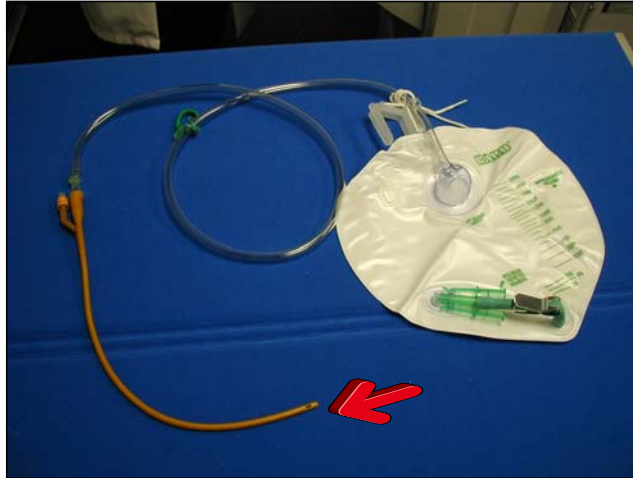
43

Maintenance of Urinary Catheters

- Do not change urinary systems routinely.
- Consider changing urinary system if:
 1. Infection
 2. Obstruction
 3. Break or leak of the closed system

44

Potential Site for Contamination

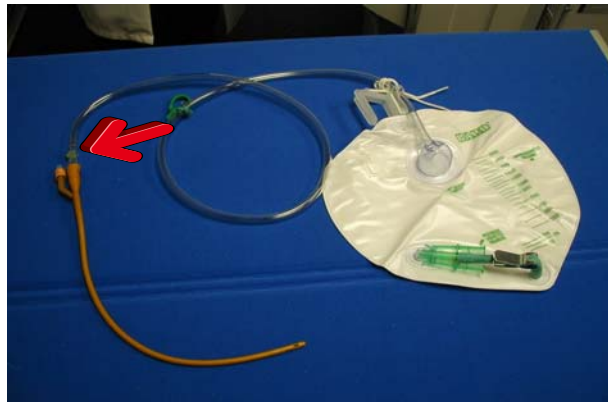


Sterile technique must be used when inserting the catheter. Do not use aggressive cleaning once urinary catheter is in place.

45

Potential Site for Contamination

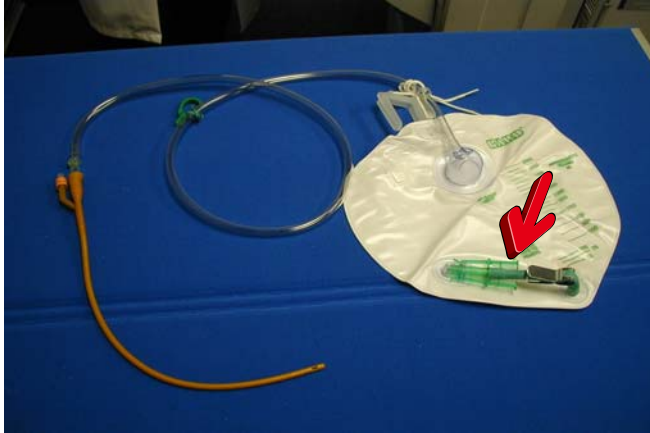
Sampling Port:
Disinfect port before sampling urine. Also, check site for possible disconnection of catheter from drainage bag.



46

Potential Site for Contamination

System may become an open system if outlet is left hanging or is unclamped.



47

Maintenance of Urinary Catheter: Irrigation

- Avoid irrigation unless necessary (obstruction of catheter).
- Catheter tubing junction should be disinfected before irrigation.
- Use the sampling port to relieve the obstruction.
- Do not disconnect the closed system unless you cannot use sampling port.

48

Periurethral or Meatal Care

- Frequently washing the meatus with povidone-iodine or soap is not associated with lower infection risk.
- Aggressive cleaning may be associated with increased infection!
- Routine hygiene during daily bathing is appropriate.

49

What Needs to Be Done

- Both nurses and physicians should evaluate the indications for urinary catheter utilization.
- Physicians should promptly discontinue catheters that are no longer needed.
- Nurses evaluating catheters and finding no indication should contact the physician to promptly discontinue the catheter.

50

Urinary Catheter Use

- Place Only When Necessary
- Promptly Remove When Unnecessary

51

This completes the
“Appropriate Urinary Catheter Use
and Management” module.
(Optional Evaluation Test)

52

E. EVALUATION TEST

1. Questions
2. Correct answers

Appropriate Urinary Catheter Use and Management: Test

1

Hospital-Acquired Urinary Tract Infections (UTIs):

- a. Account for 40% of all hospital acquired infections
- b. Most hospital acquired UTIs are related to urinary catheters
- c. Diagnosis is made if urine is cloudy
- d. Risk of infection increases the longer the urinary catheter is used
- e. a, b, d

2

Nursing Protocol for the Incontinent Patient:

- a. Insert an indwelling urinary catheter
- b. Do not insert a urinary catheter
- c. Implement use of skin barrier creams
- d. Turn patient every two hours, encourage ambulation with assistance if appropriate
- e. Start a toilet training program
- f. b, c, d, e

3

Risk of Catheter-Associated UTI is Reduced by:

- a. Avoiding urinary catheter use if not indicated
- b. Discontinuing the catheter promptly when unnecessary
- c. Keeping the urinary drainage system a closed system
- d. All of the above

4

Indications for Urinary Catheter Placement
Include:

- a. Urinary tract obstruction
- b. Neurogenic bladder dysfunction with urinary retention
- c. Urologic surgery
- d. Incontinence
- e. a, b, and c
- f. All of the above

5

Indications for Urinary Catheter Placement
Include:

- a. Accurate measurements of urinary output *in the ICU*
- b. Immobility because of old age or debility
- c. Obtaining urinary specimens or cultures in those who are *able* to urinate
- d. a and b
- e. All of the above

6

Urinary Catheter is Indicated for:

- a. Close monitoring of urinary output *outside* of ICU
- b. Patients on intravenous diuretics
- c. Incontinent patients requiring multiple changes of bed sheets
- d. All of the above
- e. None of the above

7

When Placing a Urinary Catheter you Should:

- a. Use proper hand hygiene before and after placement
- b. Use sterile gloves, drape, antiseptic solution for periurethral cleaning, and a single packet lubricant for insertion
- c. Secure catheter to prevent movement and urethral traction
- d. Use largest catheter size effective for patient
- e. a, b, and c
- f. All of the above

8

Proper Maintenance of a Urinary Catheter
Includes:

- a. Keep a closed sterile drainage system
- b. Avoid irrigation unless necessary
- c. Meatal care with antiseptics
- d. Change catheter weekly
- e. a and b
- f. All of the above

9

Urinary Catheters Should Be Evaluated
for Need:

- a. On a daily basis
- b. Twice a week
- c. Weekly
- d. Every 2 weeks
- e. Monthly

10

Please continue to the next slides to
check your answers.

11

Hospital-Acquired Urinary Tract Infections (UTIs):

- a. Accounts for 40% of all hospital acquired infections
- b. Most hospital acquired UTIs are related to urinary catheters
- c. Diagnosis is made if urine is cloudy
- d. Risk of infection increases the longer the urinary catheter is used
- e. a, b, d

Correct: e. Cloudy urine \neq infection;
sediment in urine \neq infection

12

Nursing Protocol for the Incontinent Patient:

- a. Insert an indwelling urinary catheter
- b. Do not insert a urinary catheter
- c. Implement use of skin barrier creams
- d. Turn patient every two hours, encourage ambulation with assistance if appropriate
- e. Start a toilet training program
- f. b, c, d, e

Correct: f. Avoid placing urinary catheters in incontinent patients unless patients have perineal wounds that risk deterioration.

13

Risk of Catheter-Associated UTI is Reduced by:

- a. Avoiding urinary catheter use if not indicated
- b. Discontinuing the catheter promptly when unnecessary
- c. Keeping the urinary drainage system a closed system
- d. All of the above

Correct: d. The risk of UTI is reduced by appropriate urinary catheter utilization and keeping the urinary system a closed system.

14

Indications for Urinary Catheter Placement
Include:

- a. Urinary tract obstruction
- b. Neurogenic bladder dysfunction with urinary retention
- c. Urologic surgery
- d. Incontinence
- e. a, b, and c
- f. All of the above

Correct: e. Incontinence should not be a reason to place a urinary catheter.

15

Indications for Urinary Catheter Placement
Include:

- a. Accurate measurements of urinary output in the ICU
- b. Immobility because of old age or debility
- c. Obtaining urinary specimens or cultures in those who are *able* to urinate
- d. a and b
- e. All of the above

Correct: a. Urinary catheters may be used in intensive care for accurate urinary output measurement. Immobility is not an indication. If patient cannot provide a urinary specimen (eg, severe dementia with incontinence), may straight catheterize once if sterile specimen needed, other options include condom catheter for a short period in men to obtain specimen.

16

Urinary Catheter is Indicated for:

- a. Close monitoring of urinary output *outside* of ICU
- b. Patients on intravenous diuretics
- c. Incontinent patients requiring multiple changes of bed sheets
- d. All of the above
- e. None of the above

Correct: e. Urinary catheter is not recommended for urine output monitoring outside of intensive care. Patients on diuretics and incontinent patients should not have a urinary catheter placed unless other indications are present.

17

When Placing a Urinary Catheter you Should:

- a. Use proper hand hygiene before and after placement
- b. Use sterile gloves, drape, antiseptic solution for periurethral cleaning, and a single packet lubricant for insertion
- c. Secure catheter to prevent movement and urethral traction
- d. Use largest catheter size effective for patient
- e. a, b, and c
- f. All of the above

Correct: e. The smallest urinary catheter size is used in placing a urinary catheter.

18

Proper Maintenance of a Urinary Catheter Includes:

- a. Keep a closed sterile drainage system
- b. Avoid irrigation unless necessary
- c. Meatal care with antiseptics
- d. Change catheter weekly
- e. a and b
- f. All of the above

Correct: e. Meatal care with antiseptics has not been associated with a reduction in infection. Routine hygiene with bathing is recommended.

19

Urinary Catheters Should Be Evaluated for Need:

- a. On a daily basis
- b. Twice a week
- c. Weekly
- d. Every 2 weeks
- e. Monthly

Correct: a. Daily assessment of need of urinary catheter allows the healthcare worker to intervene early in removal of unnecessary urinary catheters.

20

F. PROJECT TIMELINE

PROGRAM TIMELINE: Removing Unnecessary Urinary Catheters

Date	Week 0	Weeks 1 - 3	Week 4	Weeks 5 & 6	Weeks 7 - 12	Quarterly
Preparation	Unit A					
Baseline		Unit A				
Prepare for implementation			Unit A			
Implementation				Unit A		
After Implementation					Unit A	
Sustainability						Unit A
Feedback Data to Unit					X	X

Summary

Preparation	Meet with Nurse Manager (NM) & Case Manager (CM) or champion on unit; explain project plan and expectations of staff.
Weeks 1 - 3	Baseline: Collect urinary catheter use and non-use data from every patient on assigned unit. Collect data daily during weekdays using the "Weeks 1 - 3 Data Collection Tool." If a urinary catheter is present, specify whether it is indicated or not and the indication for use.
Week 4	Prepare for the implementation. Consider distributing education materials and arranging lectures for the nursing staff.
Weeks 5 & 6	Implementation: Attend daily Nursing Rounds with NM/CM/Social Worker and the nurse assigned to patient. Review indications for urinary catheter use with rounding team if the patient has a urinary catheter. Coach patient's nurse on evaluating the need of the catheter and to own that process. Ask nurse to contact physician to discontinue urinary catheter if indications are not met. Use "Weeks 5 - 6 Data Collection Tool."
Weeks 7 - 12	After Implementation: Collect urinary catheter use and non-use data from every patient on assigned unit. Collect data one day a week using the "Weeks 7 - 12 Data Collection Tool." Data collected for this period only includes presence or absence of the urinary catheter.
Quarterly	Sustainability: Collect urinary catheter utilization data for 5 consecutive days every quarter for 5 quarters. Reinforce the importance of compliance with indications through feedback to units involved. Use "Quarterly Data Collection Tool."
Feedback of Data to Unit	Unit-specific urinary catheter use will be given to the unit involved directly after the implementation, and periodically.

G. DATA COLLECTION AND MEASUREMENT

1. Process and outcome measures
2. Data collection tools
3. NHSN definition for symptomatic CAUTI

We present process and outcome measures that may be calculated with the program implementation. Those that are required by Care Counts are in **bold** font.

Process measures:

Process measures will evaluate whether the program has led to an improvement in the process, assuming that an improvement in the process may result in an improvement in the outcome. We measure the utilization of all catheters in addition to unnecessary urinary catheters. We compare the periods before implementation, during program implementation, and after implementation.

1. Urinary catheter utilization ratio = Number urinary catheter-days/ Number of patient-days in a unit
2. **Prevalence rate = (Number of urinary catheter-days/ Number of patient-days in a unit) x100**
3. Rate of unnecessary urinary catheter use = (Days used of unnecessary urinary catheters/Number of patient days) x1000
4. **Unnecessary urinary catheters % = (Days of unnecessary urinary catheters/Total number of days of urinary catheters used) x100 (only baseline and implementation)**
5. Discontinuation rate of unnecessary urinary catheters % = (Number of unnecessary urinary catheters discontinued/All urinary catheters without valid indications) x100

Outcome Measures:

Outcome measures will evaluate whether the program has led to an improvement in the final outcome, which includes symptomatic urinary tract infections and bacteremia related to urinary tract infections. We compare the periods before implementation, during program implementation, and after implementation. Note that the denominator used by the National Healthcare Safety Network is *catheter*-days, reflecting the risk of infection for patients that are exposed to the urinary catheter. On the other hand, the use of *patient*-days for a denominator may reflect better interventions that focus on prevention of urinary catheter placement which may not be captured when using catheter days for a denominator.

1. **National Healthcare Safety Network defined rates:**
 - a. **Symptomatic catheter-associated urinary tract infections rate = (Number of symptomatic catheter-associated urinary tract infections/ Number of urinary catheter-days) x1000**
 - b. Bloodstream infections related to catheter-associated urinary tract infections = (Number of bloodstream infections related to catheter-associated urinary tract infections/Number of urinary catheter days) x1000
2. **Symptomatic catheter-associated urinary tract infections rate (using patient-days) = (Number of symptomatic catheter-associated urinary tract infections/ Number of patient-days) x10,000**

Unit		<h1>Urinary Catheter Prevalence Sheet</h1>			
Date					
Weeks 1-3	Baseline				
Room/bed	Patient #	Urinary Catheter present	Indicated?	Indication	

No = 0
Yes = 1

Non-Indicated = 0
Indicated = 1

Indications:
 Acute urinary retention or obstruction = 1
 Perioperative use in selected surgeries = 2
 Perineal and sacral wounds in incontinent patients = 3
 Hospice/comfort/ palliative care = 4
 Required immobilization for trauma or surgery = 5
 Chronic indwelling urinary catheter on admission = 6
 Accurate measurement of urinary output in the critically ill patients = 7
Not Indicated Urinary Catheters Reasons:
 Urine output monitoring OUTSIDE intensive care = 8
 Incontinence without a sacral or perineal pressure sore = 9
 Prolonged postoperative use = 10
 Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)

Unit		Urinary Catheter Prevalence Sheet				
Date						
Week 5 & 6	Implementation					
Room/bed	Patient #	Urinary Catheter Present	Indicated?	Indication		

No = 0
Yes = 1

Non-indicated = 0
Indicated = 1

- Indications:**
 Acute urinary retention or obstruction = 1
 Perioperative use in selected surgeries = 2
 Perineal and sacral wounds in incontinent patients = 3
 Hospice/comfort/ palliative care = 4
 Required immobilization for trauma or surgery = 5
 Chronic indwelling urinary catheter on admission = 6
 Accurate measurement of urinary output in the critically ill patients = 7
- Not Indicated Urinary Catheters Reasons:**
 Urine output monitoring OUTSIDE intensive care = 8
 Incontinence without a sacral or perineal pressure sore = 9
 Prolonged postoperative use = 10
 Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)

Unit	Urinary Catheter Prevalence Sheet					
Date						
Weeks 7-12	After Implementation					
Room/bed	Patient #					
		Urinary catheter present				

No=0
 Yes=1

Urinary Catheter Prevalence Sheet

Unit		Urinary Catheter Prevalence Sheet				
Date						
Week 5 & 6	Implementation					
Room/bed	Patient #	Urinary Catheter Present	Indicated?	Indication	Discontinuation	

No = 0
 Yes = 1

Non-indicated = 0
 Indicated = 1

Indications:
 Acute urinary retention or obstruction = 1
 Perioperative use in selected surgeries = 2
 Perineal and sacral wounds in incontinent patients = 3
 Hospice/comfort/ palliative care = 4
 Required immobilization for trauma or surgery = 5
 Chronic indwelling urinary catheter on admission = 6
 Accurate measurement of urinary output in the critically ill patients = 7
Not Indicated Urinary Catheters Reasons:
 Urine output monitoring OUTSIDE intensive care = 8
 Incontinence without a sacral or perineal pressure sore = 9
 Prolonged postoperative use = 10
 Others = 11 (include those transferred from intensive care, morbid obesity, immobility, confusion or dementia, and patient request)

Optional:
 if you want to track discontinuation following your recommendation
 No = 0, Yes = 1



Catheter-Associated Urinary Tract Infection (CAUTI) Event

Introduction: The urinary tract is the most common site of healthcare-associated infection, accounting for more than 30% of infections reported by acute care hospitals¹. Virtually all healthcare-associated urinary tract infections (UTIs) are caused by instrumentation of the urinary tract.

CAUTI can lead to such complications as cystitis, pyelonephritis, gram-negative bacteremia, prostatitis, epididymitis, and orchitis in males and, less commonly, endocarditis, vertebral osteomyelitis, septic arthritis, endophthalmitis, and meningitis in all patients. Complications associated with CAUTI cause discomfort to the patient, prolonged hospital stay, and increased cost and mortality. Each year, more than 13,000 deaths are associated with UTIs.¹

Prevention of CAUTIs is discussed in the CDC/HICPAC document, *Guideline for Prevention of Catheter-associated Urinary Tract Infections*².

Settings: Surveillance will occur in any of three types of inpatient locations: (1) ICUs, (2) SCAs (includes hematology/oncology wards, bone marrow transplant units, solid organ transplant units, inpatient dialysis units, long term acute care areas), and (3) any other inpatient location in the institution where denominator data can be collected (e.g., surgical wards).

NOTE: It is not required to monitor for CAUTIs after the patient is discharged from the facility, however, if discovered, they should be reported to NHSN. No additional indwelling catheter days are reported.

Requirements: Surveillance for CAUTI is performed in at least one inpatient location in the healthcare institution for at least one calendar month as indicated in the *Patient Safety Monthly Reporting Plan* (CDC 57.106).

Definitions:

Urinary tract infections (UTI) are defined using symptomatic urinary tract infection (SUTI) criteria or Asymptomatic Bacteremic UTI (ABUTI) criteria (Table 1 and Figure 1). Report UTIs that are catheter-associated (i.e. patient had an indwelling urinary catheter at the time of or within 48 hours before onset of the event). NOTE: There is no minimum period of time that the catheter must be in place in order for the UTI to be considered catheter-associated. NOTE: SUTI 1b and 2b and other UTI (OUTI) cannot be catheter-associated.

EXAMPLE: Patient has a Foley catheter in place on an inpatient unit. It is discontinued, and 4 days later patient meets the criteria for a UTI. This is not reported as a CAUTI because the time since Foley discontinuation exceeds 48 hours.



Location of attribution: The location where the patient was assigned on the date of the UTI event, which is further defined as the date when the first clinical evidence appeared or the date the specimen used to meet the criterion was collected, whichever came first.

EXAMPLE: Patient has a Foley catheter inserted in the Emergency Department and then is admitted to the MICU. Within 24 hours of admission to the MICU, patient meets criteria for UTI. This is reported to the NHSN as a CAUTI for the MICU, because the Emergency Department is not an inpatient location and no denominator data are collected there.

EXAMPLE: Patient on the urology ward of Hospital A had the Foley catheter removed and is discharged home a few hours later. The ICP from Hospital B calls the next day to report that this patient has been admitted to Hospital B with a UTI. This CAUTI should be reported to NHSN for Hospital A and attributed to the urology ward.

EXCEPTION: If a CAUTI develops within 48 hours of transfer from one inpatient location to another in the same facility, the infection is attributed to the transferring location. This is called the Transfer Rule and examples are shown below.

- Patient with a Foley catheter in place in the SICU is transferred to the surgical ward. Thirty six (36) hours later, the patient meets the criteria for UTI. This is reported to NHSN as a CAUTI for the SICU.
- Patient is transferred to the medical ward from the MSICU after having the Foley catheter removed. Within 24 hours, patient meets criteria for a UTI. This is reported to NHSN as a CAUTI for the MSICU.
- Patient with a Foley catheter in place is transferred from the medical ward to the coronary care ICU (CCU). After 4 days in the CCU, the patient meets the criteria for UTI. This is reported to NHSN as a CAUTI for the CCU.

Indwelling catheter: a drainage tube that is inserted into the urinary bladder through the urethra, is left in place, and is connected to a closed collection system; also called a Foley catheter; does not include straight in-and-out catheters.

Numerator Data: The *Urinary Tract Infection (UTI) Form* (CDC 57.114) is used to collect and report each CAUTI that is identified during the month selected for surveillance. The *Instructions for Completion of Urinary Tract Infection Form* (Tables of Instructions, Tables 5 and 2a) includes brief instructions for collection and entry of each data element on the form. The UTI form includes patient demographic information and information on whether or not an indwelling urinary catheter was present. Additional data include the specific criteria met for identifying the UTI, whether the patient developed a secondary bloodstream infection, whether the patient died, and the organisms isolated from cultures and their antimicrobial susceptibilities.

Denominator data: Device days and patient days are used for denominators (See Chapter 16 Key Terms). Indwelling urinary catheter days, which are the number of patients with an indwelling urinary catheter device, are collected daily, at the same time each day, according to the chosen location using the appropriate form (CDC 57.116,



57.117, and 57.118). These daily counts are summed and only the total for the month is entered into NHSN. Indwelling urinary catheter days and patient days are collected separately for each of the locations monitored.

Data Analyses: The CAUTI rate per 1000 urinary catheter days is calculated by dividing the number of CAUTIs by the number of catheter days and multiplying the result by 1000. The Urinary Catheter Utilization Ratio is calculated by dividing the number of urinary catheter days by the number of patient days. These calculations will be performed separately for the different types of ICUs, specialty care areas, and other locations in the institution, except for neonatal locations.

¹Klebens RM, Edward JR, et al. Estimating health care-associated infections and deaths in U.S. hospitals, 2002. *Public Health Reports* 2007;122:160-166.

²Wong ES. Guideline for prevention of catheter-associated urinary tract infections. *Infect Control* 1981;2:126-30.

Table 1-Urinary Tract Infection Criteria

Criterion	Symptomatic Urinary Tract Infection (SUTI) Must meet at least 1 of the following criteria:
1a	<p>Patient had an indwelling urinary catheter in place at the time of specimen collection <i>and</i> at least 1 of the following signs or symptoms with no other recognized cause: fever (>38°C), suprapubic tenderness, or costovertebral angle pain or tenderness <i>and</i> a positive urine culture of $\geq 10^5$ colony-forming units (CFU)/ml with no more than 2 species of microorganisms.</p> <p>-----OR-----</p> <p>Patient had indwelling urinary catheter <u>removed within the 48 hours prior</u> to specimen collection <i>and</i> at least 1 of the following signs or symptoms with no other recognized cause: fever (>38°C), urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness <i>and</i> a positive urine culture of $\geq 10^5$ colony-forming units (CFU)/ml with no more than 2 species of microorganisms.</p>
1b	<p>Patient did <u>not</u> have an indwelling urinary catheter in place at the time of specimen collection nor within 48 hours prior to specimen collection <i>and</i> has at least 1 of the following signs or symptoms with no other recognized cause: fever (>38°C) in a patient that is ≤ 65 years of age, urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness <i>and</i> a positive urine culture of $\geq 10^5$ CFU/ml with no more than 2 species of microorganisms.</p>
2a	<p>Patient had an indwelling urinary catheter in place at the time of specimen collection <i>and</i> at least 1 of the following signs or symptoms with no other recognized cause: fever (>38°C), suprapubic tenderness, or costovertebral angle pain or tenderness <i>and</i> a positive urinalysis demonstrated by at least 1 of the following findings:</p> <ol style="list-style-type: none"> a. positive dipstick for leukocyte esterase and/or nitrite b. pyuria (urine specimen with ≥ 10 white blood cells [WBC]/mm³ or ≥ 3 WBC/high power field of unspun urine) c. microorganisms seen on Gram stain of unspun urine <p><i>and</i> a positive urine culture of $\geq 10^3$ and $< 10^5$ CFU/ml with no more than 2 species of microorganisms.</p> <p>-----OR-----</p> <p>Patient had indwelling urinary catheter <u>removed within the 48 hours prior</u> to specimen collection <i>and</i> at least 1 of the following signs or symptoms with no other recognized cause: fever (>38°C), urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness <i>and</i> a positive urinalysis demonstrated by at least 1 of the following findings:</p> <ol style="list-style-type: none"> a. positive dipstick for leukocyte esterase and/or nitrite b. pyuria (urine specimen with ≥ 10 white blood cells [WBC]/mm³ or ≥ 3 WBC/high power

Table 1-Urinary Tract Infection Criteria

	<p>field of unspun urine) c. microorganisms seen on Gram stain of unspun urine <i>and</i> a positive urine culture of $\geq 10^3$ and $< 10^5$ CFU/ml with no more than 2 species of microorganisms.</p>
2b	<p>Patient did <u>not</u> have an indwelling urinary catheter in place at the time of specimen collection nor within 48 hours prior to specimen collection <i>and</i> has at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^\circ\text{C}$) in a patient that is ≤ 65 years of age, urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness <i>and</i> a positive urinalysis demonstrated by at least 1 of the following findings: a. positive dipstick for leukocyte esterase and/or nitrite b. pyuria (urine specimen with ≥ 10 WBC/mm³ or ≥ 3 WBC/high power field of unspun urine) c. microorganisms seen on Gram stain of unspun urine <i>and</i> a positive urine culture of $\geq 10^3$ and $< 10^5$ CFU/ml with no more than 2 species of microorganisms.</p>
3	<p>Patient ≤ 1 year of age with or without an indwelling urinary catheter has at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^\circ\text{C}$ core), hypothermia ($<36^\circ\text{C}$ core), apnea, bradycardia, dysuria, lethargy, or vomiting <i>and</i> a positive urine culture of $\geq 10^5$ CFU/ml with no more than 2 species of microorganisms.</p>
4	<p>Patient ≤ 1 year of age with or without an indwelling urinary catheter has at least 1 of the following signs or symptoms with no other recognized cause: fever ($>38^\circ\text{C}$ core), hypothermia ($<36^\circ\text{C}$ core), apnea, bradycardia, dysuria, lethargy, or vomiting <i>and</i> a positive urinalysis demonstrated by at least one of the following findings: a. positive dipstick for leukocyte esterase and/or nitrite b. pyuria (urine specimen with ≥ 10 WBC/mm³ or ≥ 3 WBC/high power field of unspun urine) c. microorganisms seen on Gram's stain of unspun urine <i>and</i> a positive urine culture of between $\geq 10^3$ and $< 10^5$ CFU/ml with no more than two species of microorganisms.</p>
Criterion	Asymptomatic Bacteremic Urinary Tract Infection (ABUTI)
	<p>Patient with or without an indwelling urinary catheter has <u>no</u> signs or symptoms (i.e., <u>no</u> fever ($>38^\circ\text{C}$) for patients ≤ 65 years of age*; and for any age patient <u>no</u> urgency, frequency, dysuria, suprapubic tenderness, or costovertebral angle pain or tenderness, <u>OR</u> for a patient ≤ 1 year of age, <u>no</u> fever ($>38^\circ\text{C}$ core), hypothermia ($<36^\circ\text{C}$ core), apnea, bradycardia, dysuria, lethargy, or vomiting) <i>and</i> a positive urine culture of $\geq 10^5$ CFU/ml with no more than 2 species of uropathogen microorganisms** <i>and</i> a positive blood culture with at least 1 matching uropathogen microorganism to the urine culture.</p> <p>*Fever is not diagnostic for UTI in the elderly (>65 years of age) and therefore fever in this age group does not disqualify from meeting the criteria of an ABUTI. **Uropathogen microorganisms are: Gram-negative bacilli, <i>Staphylococcus</i> spp., yeasts, beta-hemolytic <i>Streptococcus</i> spp., <i>Enterococcus</i> spp., <i>G. vaginalis</i>, <i>Aerococcus urinae</i>, and <i>Corynebacterium</i> (urease positive).</p>
Comments	<ul style="list-style-type: none"> Urinary catheter tips should not be cultured and are not acceptable for the diagnosis of a urinary tract infection. Urine cultures must be obtained using appropriate technique, such as clean catch collection or

Table 1-Urinary Tract Infection Criteria

	<p>catheterization. Specimens from indwelling catheters should be aspirated through the disinfected sampling ports.</p> <ul style="list-style-type: none"> • In infants, urine cultures should be obtained by bladder catheterization or suprapubic aspiration; positive urine cultures from bag specimens are unreliable and should be confirmed by specimens aseptically obtained by catheterization or suprapubic aspiration. • Urine specimens for culture should be processed as soon as possible, preferably within 1 to 2 hours. If urine specimens cannot be processed within 30 minutes of collection, they should be refrigerated, or inoculated into primary isolation medium before transport, or transported in an appropriate urine preservative. Refrigerated specimens should be cultured within 24 hours. • Urine specimen labels should indicate whether or not the patient is symptomatic. • Report secondary bloodstream infection = “Yes” for all cases of Asymptomatic Bacteremic Urinary Tract Infection (ABUTI). • Report <i>Corynebacterium</i> (urease positive) as either <i>Corynebacterium species unspecified</i> (COS) or, as <i>C. urealyticum</i> (CORUR) if so speciated.
Criterion	Other Urinary Tract Infection (OUTI) (kidney, ureter, bladder, urethra, or tissue surrounding the retroperineal or perinephric space) Other infections of the urinary tract must meet at least 1 of the following criteria:
1	Patient has microorganisms isolated from culture of fluid (other than urine) or tissue from affected site.
2	Patient has an abscess or other evidence of infection seen on direct examination, during a surgical operation, or during a histopathologic examination.
3	Patient has at least 2 of the following signs or symptoms with no other recognized cause: fever (>38°C), localized pain, or localized tenderness at the involved site <i>and</i> at least 1 of the following: <ul style="list-style-type: none"> a. purulent drainage from affected site b. microorganisms cultured from blood that are compatible with suspected site of infection c. radiographic evidence of infection (e.g., abnormal ultrasound, CT scan, magnetic resonance imaging [MRI], or radiolabel scan [gallium, technetium]).
4	Patient ≤ 1 year of age has at least 1 of the following signs or symptoms with no other recognized cause: fever (>38°C core), hypothermia (<36°C core), apnea, bradycardia, lethargy, or vomiting <i>and</i> at least 1 of the following: <ul style="list-style-type: none"> a. purulent drainage from affected site b. microorganisms cultured from blood that are compatible with suspected site of infection c. radiographic evidence of infection, (e.g., abnormal ultrasound, CT scan, magnetic resonance imaging [MRI], or radiolabel scan [gallium, technetium]).
Comment	<ul style="list-style-type: none"> • Report infections following circumcision in newborns as SST-CIRC.



Identification and Categorization of SUTI Indwelling Catheter Discontinued in Prior 48 Hours

Figure

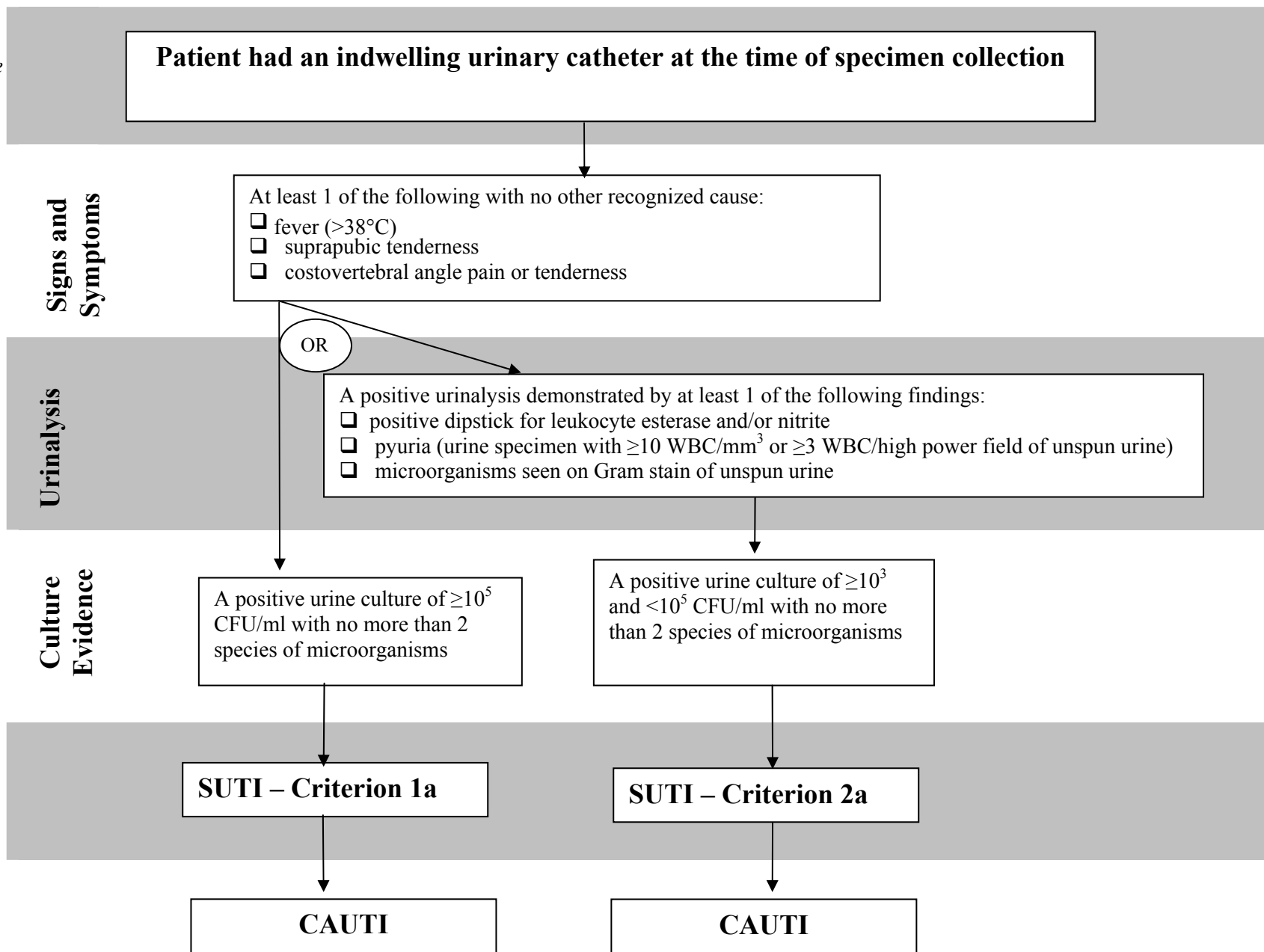
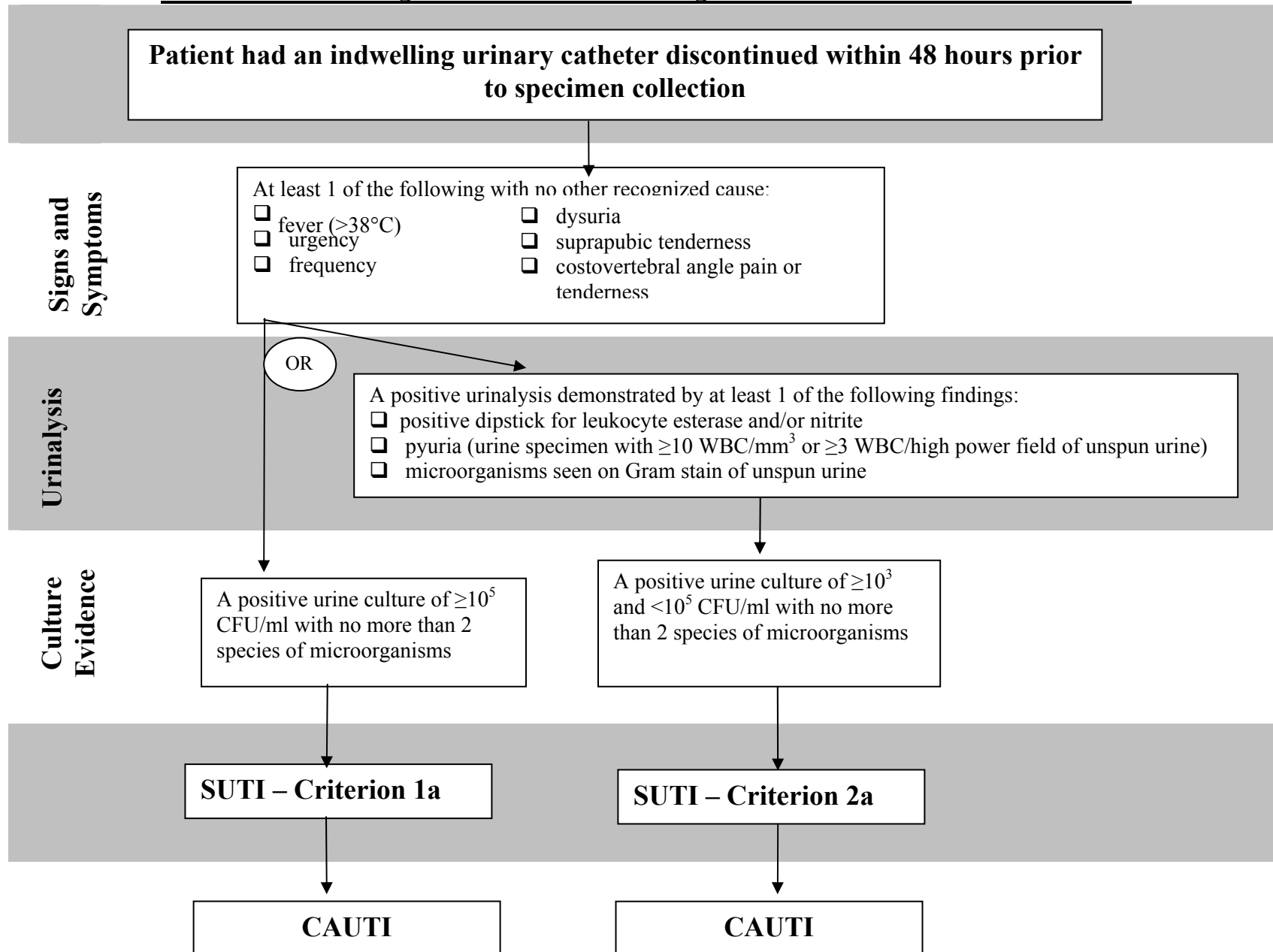


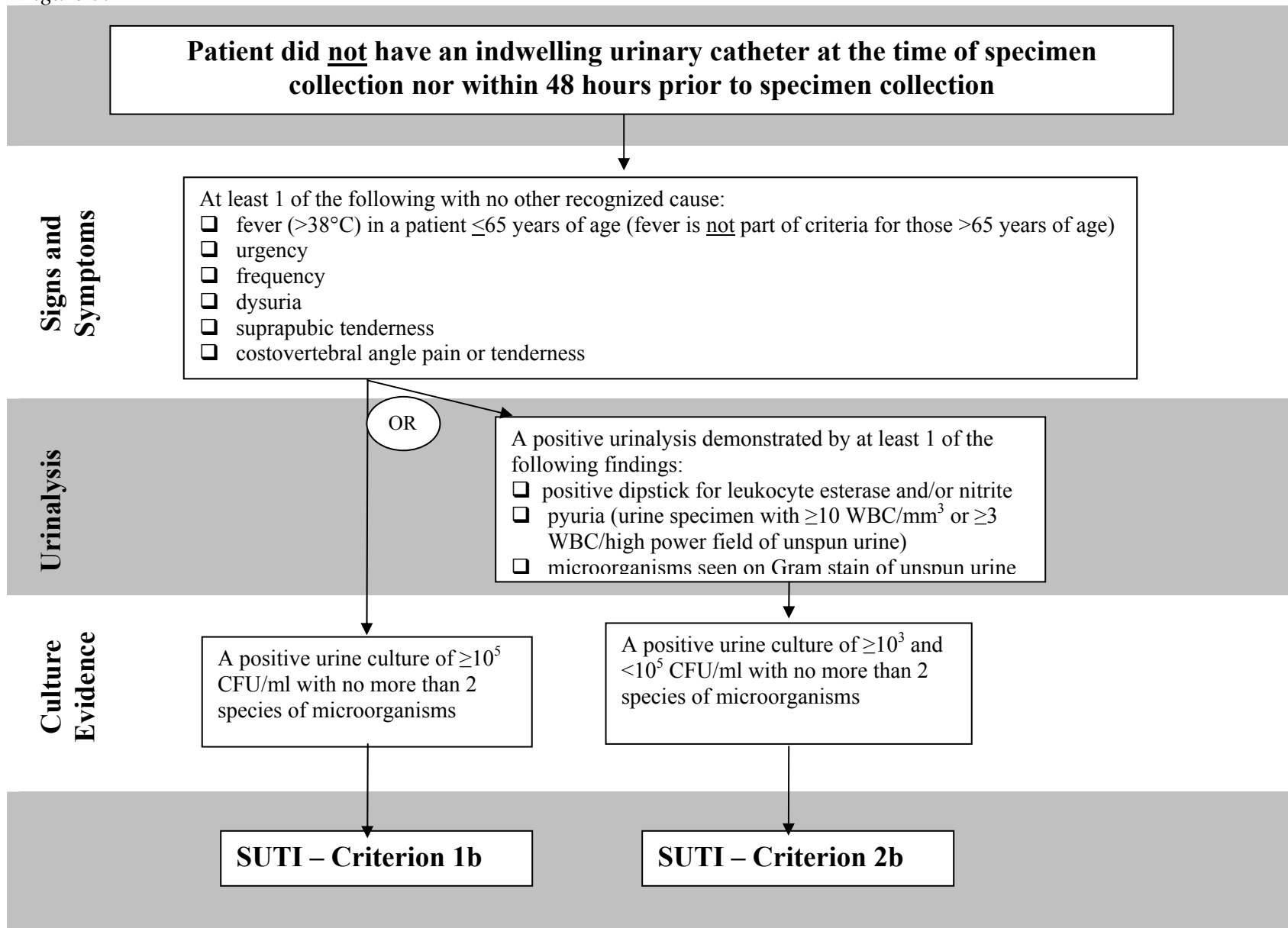
Figure 2.

Identification and Categorization of SUTI Indwelling Catheter Discontinued in Prior 48 Hours



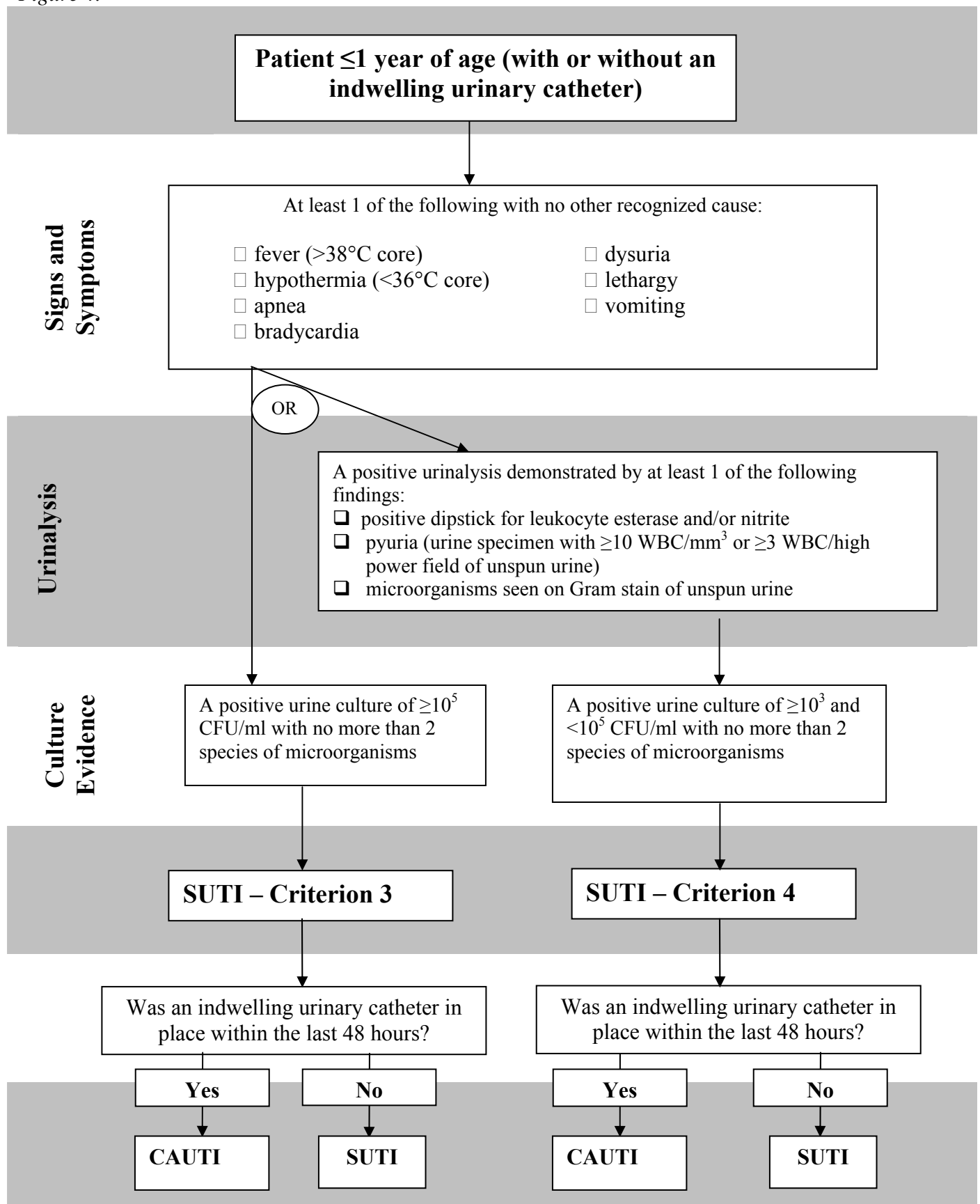
Identification and Categorization of SUTI Without Indwelling Catheter at Time of or Within 48 Hours Prior to Specimen Collection

Figure 3.



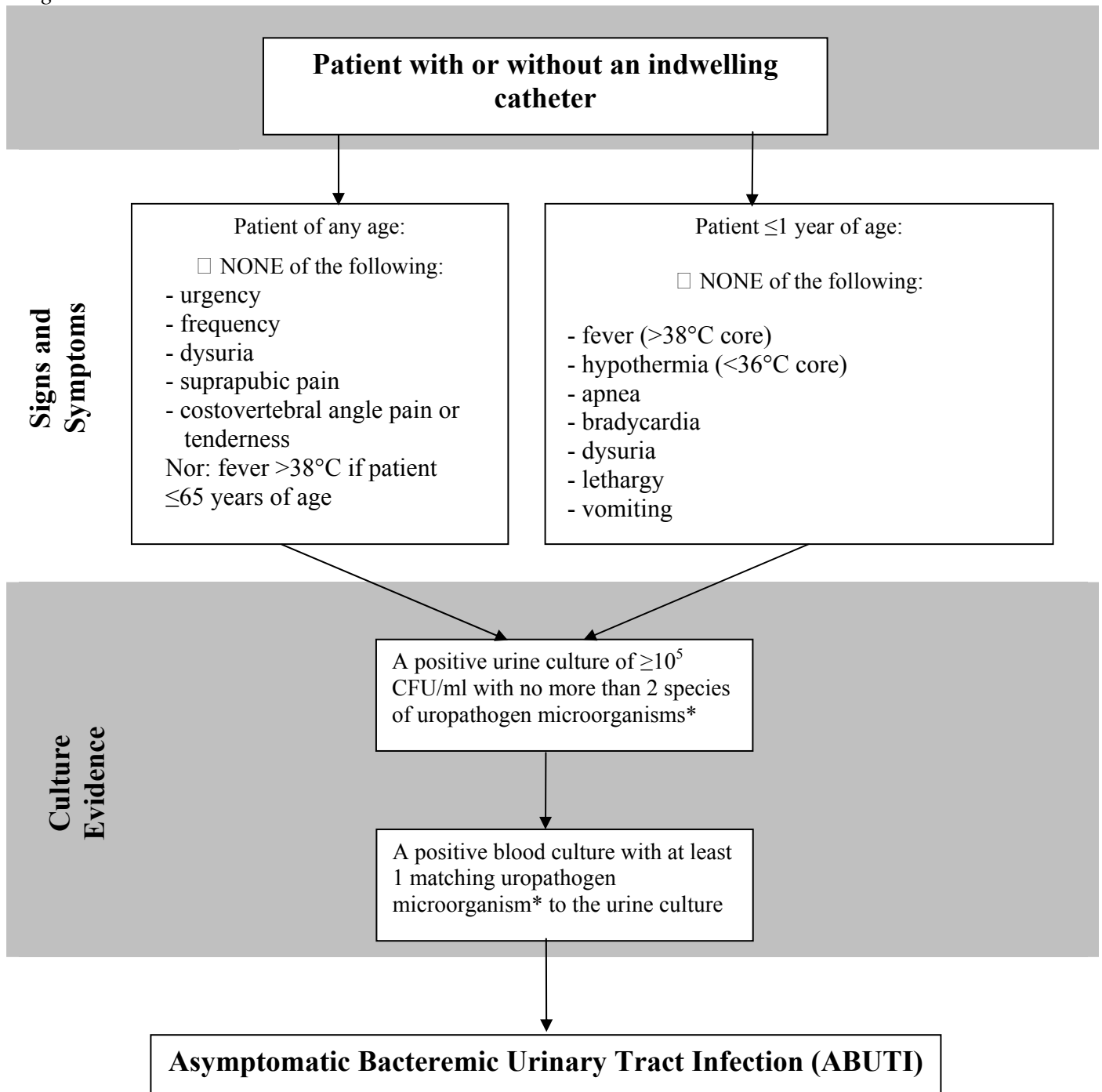
Identification and Categorization of SUTI in Patient ≤ 1 Year of Age

Figure 4.



Identification of Asymptomatic Bacteremic Urinary Tract Infection (ABUTI)

Figure 5.



*Uropathogen microorganisms are: Gram-negative bacilli, *Staphylococcus* spp., yeasts, beta-hemolytic *Streptococcus* spp., *Enterococcus* spp., *G. vaginalis*, *Aerococcus urinae*, *Corynebacterium* (urease positive)[†].

[†]Report *Corynebacterium* (urease positive) as either *Corynebacterium species unspecified* (COS) or, as *C. urealyticum* (CORUR) if so speciated..

H. POLICIES

1. Bladder scan
2. Urinary catheterization

BLADDER SCAN Sample Policy

PURPOSE

To provide guidelines for the use of a bladder scan.

DEFINITION

The bladder scan measures ultrasonic reflections within the patient's body to differentiate the urinary bladder from the surrounding tissue. It is a non-invasive portable tool for diagnosing, managing and treating urinary outflow dysfunction.

Bladder scans:

- Determine the need for catheterization.
- Reduce the unnecessary placement of a urinary catheter.
- Provide quick measurements for post-void residual (PVR) and/or bladder capacity.

POLICY

1. A bladder scan should be considered for use with patients exhibiting acute or chronic urinary dysfunction.
2. A bladder scan should not be used if the patient has open skin or a wound in the suprapubic region, or if the patient is pregnant.
3. A bladder scan should not be used in the presence of flammable anesthetics.
4. If a bladder scan is used to assess for PVR (post-void residual):
 - 4.1 The amount voided should be documented on the report.
 - 4.2 If the PVR is greater than 200 cc, the patient should initially be straight catheterized (per physician order) avoiding urinary catheterization (Foley) placement if at all possible.
 - 4.3 If straight catheterization is performed after the scan, the amount of urine obtained should be recorded.

RESPONSIBLE PERSONS

Determine what nursing care position will be able to be trained at your facility

EQUIPMENT

Bladder scanner, scan head, plug, battery and stand, ultrasound transmission gel, top-loading printout paper

BLADDER SCAN PROCEDURE	RATIONALE / EMPHASIS
1. Put on unsterile gloves.	
2. Clean off scanner head before and after each patient use. Using hospital approved disinfectant.	
3. Check that battery is in place and probe is plugged in.	
4. Scan may be done in sitting or supine position.	
5. Remove or adjust patient's clothing to expose abdominal area.	
6. Turn bladder scan on. Self-testing will display on panel as well as identifying buttons.	
7. Press scan and then note gender. (NOTE: If the female patient has had a hysterectomy, use the <u>male</u> key for gender. If the patient is very thin or obese use more ultrasound gel. For patients with large amounts of lower abdominal hair, apply the gel directly to the skin. Advise the patient the gel will be cool.)	
8. Apply gel to the scanner head being careful to remove air bubbles.	
9. Place scanner head about one inch above symphysis pubis pointing slightly down toward the expected bladder location. Make sure the head of icon on the scan head is pointed towards the patient's head.	
10. Press the "scan" button making sure to hold scanner steady until you hear a beep. The bladder scan will display the volume measured and an aiming display with crosshairs. If the crosshairs are not centered on the bladder, adjust the probe and re-scan until they are properly centered.	
11. When you are satisfied the results are accurate, press the "done" button. The bladder scan will display the largest volume measured for the longitudinal and horizontal areas.	

BLADDER SCAN PROCEDURE	RATIONALE / EMPHASIS
12. Press "print" and the measurement will be printed on paper.	
13. Bladder Scan Safety/Helpful Tips:	
13.1 This Scan should never be used for fetal heart tones.	
13.2 Use care with suprapubic and pelvic surgical patients.	Scar tissue, surgical incisions, sutures or staples can affect scan accuracy.
13.3 If the LCD screen shows a "greater than" symbol (>) next to the bladder volume measurement, then you do not have the bladder within full range of the scan head and the patient's true bladder volume is greater than the volume displayed. To achieve an accurate measurement, reposition the scan head and repeat the scan. An exception occurs when the volume shown is greater than 999 cc; in this case, the bladder is within full range of the instrument and the reading displayed is accurate.	In some instances, the bladder may be too full to scan accurately. Repositioning or re-aiming the scan head will do little to improve accuracy, but readings can still be clinically useful even if they underestimate true bladder volume.
13.4 The bladder scan computes the volume of the bladder based upon twelve cross sectional images of the bladder. Be sure to hold the scan head motionless during scans.	
13.5 The most accurate measurements are obtained when the patient is resting quietly in the supine position.	
13.6 The accuracy of the result is compromised if the user does not obtain an optimal, reportable image.	
13.7 The patient should not have a urinary catheter in the bladder.	This could affect the accuracy of the instrument by creating micro bubbles in the bladder.
14. To save power, the bladder scan will turn itself off when not in use.	

URINARY CATHETERIZATION – Sample Policy

PURPOSE

The purpose of urinary catheterization is to facilitate urinary drainage when medically necessary. Urinary catheters should be evaluated everyday for need and removed promptly when no longer necessary.

Urinary catheters are deemed medically necessary for the following reasons:

1. Urinary retention including obstruction and neurogenic bladder: the patient is unable to pass urine because of an enlarged prostate, blood clots or an edematous scrotum/penis or unable to empty the bladder because of neurologic disease / medication effect.
2. Short perioperative use in selected surgeries (less than 24 hours) and for urologic Studies or surgery on contiguous structures.
3. Output measurements in the Intensive Care Units.
4. Assist healing of perineal and sacral wounds in incontinent patients to avoid further deterioration of wound and skin.
5. Required immobilization for trauma or surgery.
6. Hospice/comfort care or palliative care, if requested by patient
7. Chronic indwelling urinary catheter on admission (may clarify reason of use from physician)

BACKGROUND

Urinary catheterization is the aseptic process of inserting a sterile hollow pliable tube into the urethra to facilitate urine drainage into a closed bag system. The urinary tract is the most common site of hospital-acquired infections accounting for approximately 40% of hospital infections. The intent of this policy will not only give guidance for urinary catheter maintenance techniques, but also will assist in the prevention of catheter-associated urinary tract infections (CAUTI).

POLICY

1. General:

- 1.1 Urinary catheters should be inserted *only* when medically necessary and should be evaluated daily for need. Urinary catheters should not be used solely for the convenience healthcare workers. Document

alternative methods for bladder elimination prior to insertion of indwelling catheter.

1.1.1. Alternative methods include:

- Bladder training, which consists of placing the patient on the bedpan or commode every two hours.
- Utilizing a bladder scan machine for suspected urinary retention (please refer to the Bladder Scan Policy for guidelines).

1.2 Urinary catheters should be placed only under the direction of a physician order. However, if the patient's nurse does not deem the urinary catheter meets the indications for placement, the patient's nurse should question need.

2. Insertion/Application:

2.1 Indwelling, straight, and suprapubic urinary catheters should be inserted using aseptic technique and sterile equipment.

2.1.1. Sterile gloves, drape, and sponges; an appropriate antiseptic solution for periurethral cleaning and a single-use packet of lubricant jelly should be used for insertion.

2.2 The smallest bore catheter possible should be utilized to minimize urethral trauma and irritation.

2.3 Indwelling catheters should be properly secured after insertion to prevent movement and urethral trauma.

2.4 Patients who perform self-catheterization at home should be encouraged to continue performing this procedure while in the hospital.

2.4.1. Patients performing self-catheterization should utilize a clean technique.

2.4.2. Nursing personnel should evaluate the patient's performance and reinforce positive behaviors.

3. Maintenance:

3.1 Standard Precautions: Use gloves when manipulating the catheter site and drainage system and practice hand hygiene before and after.

- 3.2 A sterile, continuously closed drainage system should be maintained for indwelling and suprapubic catheter systems.
- 3.3 The catheter and drainage tubing should not be disconnected unless the catheter can only be irrigated manually or if new tubing needs to be attached.
- 3.4 If there are breaks in aseptic technique, disconnection of tubing, or leakage from the bag; the drainage system should be replaced. The catheter-tubing junction should be disinfected before connecting to the new drainage system. If the catheter becomes contaminated, the catheter should also be replaced.
- 3.5 Drainage bags should always be placed below the level of the patient's bladder to facilitate drainage and prevent stasis of fluid.
- 3.6 Urine in drainage bags should be emptied at least once each shift using a container designated for that patient only. Care must be taken to keep the outlet valve from becoming contaminated. Use gloves and practice hand hygiene before and after handling the drainage device.
- 3.7 Patients with urinary catheters will have intake and output (I&O) recorded. However, urinary catheters are not to be inserted *simply* to monitor outputs with the exception of the intensive care units. Make use of other means to monitor outputs in the incontinent patient, such as daily weights.

4. Catheter Change:

- 4.1 Catheters of post-op urology patients should be changed by the urologist.
- 4.2 Catheter change: The interval between catheter changes should be determined by the individual patient's needs. Indications for change may include: leaking, break in the integrity of the closed system, equipment deterioration, mechanical impediment and blockage.
- 4.3 Indwelling catheters should not be changed at arbitrary fixed intervals.

5. Meatal Care:

- 5.1 Meatal Care: Cleansing the meatal surface during daily bathing is appropriate. The periurethral area should not be cleaned with antiseptics in patients with indwelling urinary catheters.

6. Specimen Collection:

- 6.1 Small volume urine specimens should be obtained by inserting a sterile needle/syringe into a disinfected sampling port and aspirating the urine.
- 6.2 Regular bacteriologic monitoring of catheterized patients is not recommended.
- 6.3 The patient with an indwelling catheter should be monitored for signs of catheter-associated urinary tract infection such as fever, chills, or suprapubic pain.

7. Irrigation:

- 7.1 Avoid irrigation unless there is an obstruction in the catheter.
- 7.2 Closed continuous and/or manual irrigation should only be done if ordered by a physician.
- 7.3 If irrigation is necessary to prevent obstruction due to bleeding, a manual method of irrigation should be utilized.
- 7.4 The sampling port may be used to relieve an obstructed catheter. Using a sterile syringe and sterile irrigant enter the disinfected sampling port. Use gloves and practice hand hygiene before and after procedure.
- 7.5 If clots are present, irrigate until clear using sterile normal saline (amount varies starting with 250 ml for adult patients).
- 7.6 Do not disconnect the closed system unless the sampling port cannot be used.

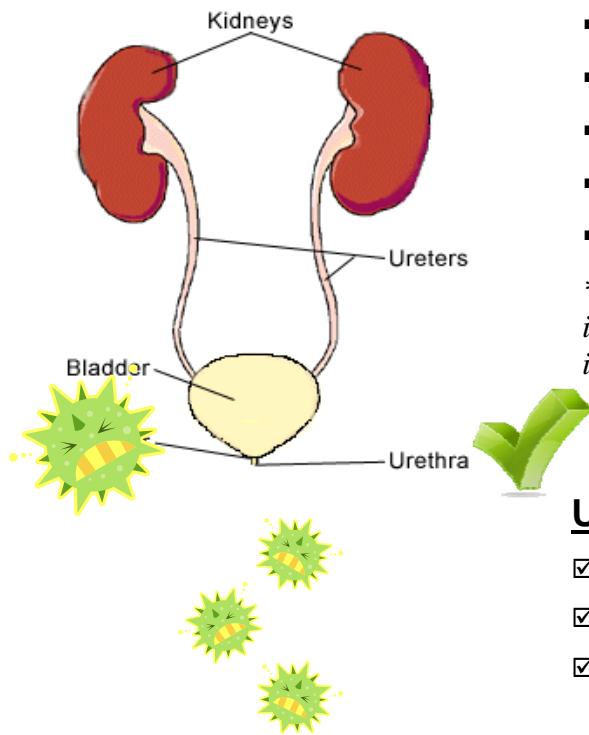
8. Responsible Persons:

- 8.1 Only persons (e.g., nursing staff, family members, or patients themselves) who know the correct technique of aseptic insertion and maintenance of the catheter should handle catheters. Healthcare workers and others who take care of catheters should be given periodic education and training, stressing the correct techniques and potential complications of urinary catheterization.

I. TOOLS TO HELP THE PROGRAM CHAMPION

1. Printable educational material
 - a. Urinary Catheter Poster (*option 1*)
 - b. Urinary Catheter Poster (*option 2*)
 - c. Urinary Catheter Decision-Making Algorithm
 - d. Urinary Catheter Project Fact Sheet
 - e. Urinary Catheter Pocket Card
 - f. Urinary Catheter Brochure
2. Presentation templates
 - a. Presentation to Manager
 - b. Presentation to Nursing Staff
 - c. Presentation of Data
3. Skin Care of the Incontinent Patient
4. Helpful hints
5. Sample letters
 - a. Implementing the Urinary Catheter Initiative
 - b. Staff education
 - c. Unit rounds to begin
 - d. Unit results

REMOVE THAT URINARY CATHETER!



Urinary Catheters Increase:

- Likelihood of Infection
- Patient Discomfort
- Antibiotic Use
- Length of Stay
- Cost

** Patients with urinary catheters tend to stay in bed, making them more immobile, and increasing their risk of skin breakdown*

Urinary Catheters ARE Indicated for:

- Acute urinary retention or obstruction
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice /comfort care/ palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission
- Accurate measurement of urinary output in the critically ill patients (intensive care)



Foley Catheters are **NOT** indicated for:

- Urine output monitoring OUTSIDE intensive care
- Incontinence (place on toileting routine, change frequently)
- Prolonged postoperative use
- Patients transferred from intensive care to general units
- Morbid obesity
- Immobility (turn patient q 2 hours, up in chair)
- Confusion or dementia



Questions?
Contact [Insert info]



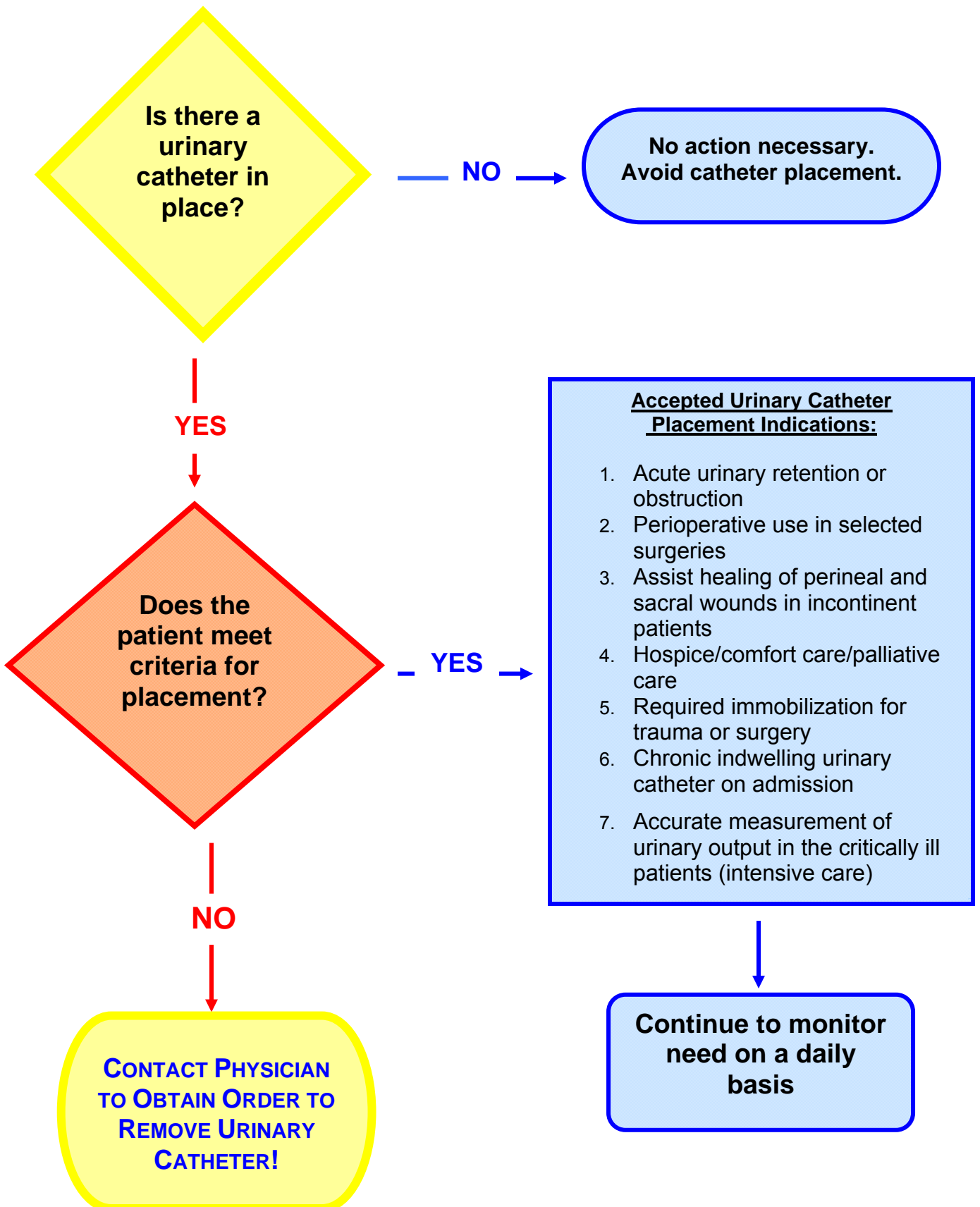
DOES YOUR PATIENT *REALLY* NEED A URINARY CATHETER?

INDICATIONS FOR URINARY CATHETER USE INCLUDE:

- Acute urinary retention or obstruction
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/ comfort care/ palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission
- Accurate measurement of urinary output in the critically ill patients (intensive care)

ANY QUESTIONS, PLEASE CALL [INSERT CONTACT INFO]

GUIDELINES FOR URINARY CATHETER NEED IN NON-INTENSIVE CARE UNITS



REMOVE UNNECESSARY URINARY CATHETERS!

URINARY CATHETER PROJECT

Goals:

- To decrease catheter-associated urinary tract infections (CAUTI)
- To improve patient safety
- To teach nurses the indications for urinary catheter use
- To reduce the unnecessary use of urinary catheters in the inpatient setting

Background:

- 600,000 patients develop hospital-acquired UTIs per year.
- 80% of these are urinary catheter-associated.
- Approximately half of the patients with a urinary catheter do not have a valid indication for placement.
- Each day the urinary catheter remains, the risk of the CAUTI increases 5%.

Prevention of CAUTI:

Follow criteria indicated for a urinary catheter:

1. Acute urinary retention or obstruction
2. Perioperative use in selected surgeries
3. Assist healing of perineal and sacral wounds in incontinent patients
4. Hospice /comfort care/ palliative care
5. Required immobilization for trauma or surgery
6. Chronic indwelling urinary catheter on admission
7. Accurate measurement of urinary output in critically ill patients (intensive care)

Promptly Remove Unnecessary Urinary Catheters!

Questions? Call [Contact Info]

Hospital Logo
Placed Here

Sample Pocket Cards for Physicians and Nurses

REMOVE THAT URINARY CATHETER!

Foley catheters can cause:

- ↑ Infections
- ↑ Length of Stay
- ↑ Cost
- ↑ Patient Discomfort
- ↑ Antibiotic Use

Urinary Catheters confine patients to bed, making them more immobile and thus increasing their risk for skin breakdown.

PREVENTION IS KEY.

OBTAIN ORDERS TO
DISCONTINUE UNNECESSARY
URINARY CATHETER!

Front

REMOVE THAT URINARY CATHETER!

Foley Catheters *are* indicated for:

- Acute urinary retention or obstruction
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/comfort/ palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission
- Accurate measurement of urinary output in the critically ill patients (intensive care)

Foley Catheters are *not* indicated for:

- Urine output monitoring OUTSIDE intensive care
- Incontinence (place on toileting routine, change frequently)
- Prolonged postoperative use
- Patients transferred from intensive care to general units
- Morbid obesity
- Immobility (turn patient q 2 hours, up in chair)
- Confusion or dementia
- Patient request

Back



Patient Management for Incontinence:

- Turn patient every 2 hours to cleanse area and change linens
- Use quilted pad under patient
- Utilize skin barrier creams
- Start toilet training program: offer bedpan or commode with assist every 2 hours

Appropriate Urinary Catheter Initiative Champions

(place names and titles)

Questions?

Call:

Hospital Name &
Logo

Promptly Remove Urinary Catheters



A Focus On Patient Safety

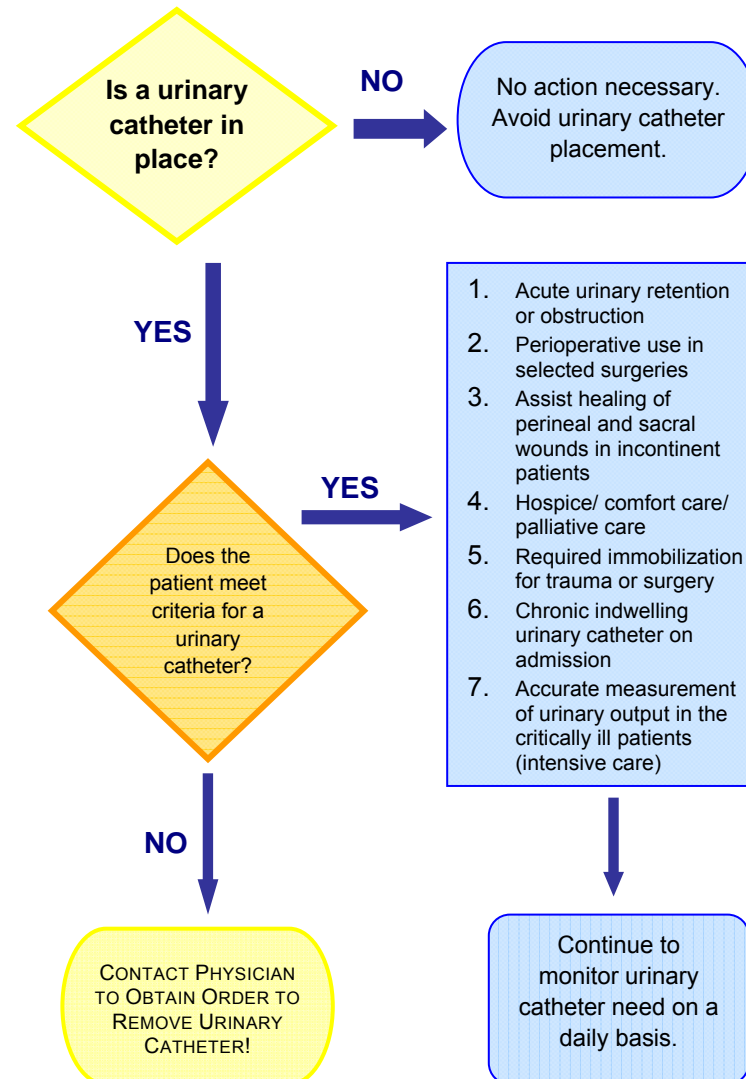
**Infection Prevention &
Control Initiative**

Evaluation of Urinary Catheter Need



Urinary Catheter Facts:

- 600,000 patients develop hospital-acquired urinary tract infections (UTIs) every year.
- 80% of these infections are from a urinary catheter.
- About half of the patients with a urinary catheter do not have a valid indication for placement.
- Each day the urinary catheter remains in place the risk of a UTI increases 5% per day.



Indications for Urinary Catheters:

- Acute urinary retention or obstruction
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/comfort care/ palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission
- Accurate measurement of urinary output in the critically ill patients (intensive care)

Urinary Catheters are *NOT* Indicated for:

- Urine output monitoring OUTSIDE intensive care
- Incontinence (place on toileting routine, change frequently)
- Patients transferred from intensive care to general units
- Prolonged postoperative use
- Morbid obesity
- Immobility without a sacral or perineal pressure sore (turn patient q 2 hours, up in chair)
- Confusion or dementia
- Patient request

PRESENTATION TO NURSE MANAGER & CASE MANAGER (OR UNIT CHAMPION)

- Set up a meeting with the Nurse Manager and Nurse Case Manager of the appropriate unit.

Agenda for (30 minute) meeting

- *Distribute Program Summary (Section A) and Urinary Catheter Project Fact Sheet and Skin Care in the Incontinent Patient (Section I).*
- *Goals of Program:*
Educate nurses on appropriate placement and management of urinary catheters
Decrease unnecessary urinary catheter use
Decrease catheter-associated urinary tract infection
Improve patient safety
- *Program Details*
Week 1-3: (Baseline) Surveillance will be conducted on all patients on the nursing unit for 15 days (Mon-Fri). The number of urinary catheters and indications will be recorded on the data collection tool. Also, count the number of patients without a urinary catheter (prevalence data).
Week 4: We will prepare the unit nurses for the implementation. We will distribute educational materials and may arrange for a lecture to the nursing staff.
- *Week 5-6:* (Implementation of the program) Educate the nursing staff on the appropriate indications for urinary catheter utilization. Attend nursing rounds daily (Mon–Fri) with nurse manager/ case manager/ social worker and nurse assigned to patient. Each staff nurse needs to be instructed to report urinary catheters present on their patients with indications. If indications are not met then the physician needs to be contacted by the staff nurse to obtain an order to discontinue the urinary catheter. The patient’s nurse will be coached to own the process of evaluating whether the patient has a urinary catheter placed, and to evaluate the need for the catheter.
Week 7-12: (After implementation) Surveillance will be conducted on all patients on the nursing unit once per week for 6 weeks. The number of urinary catheters will be recorded on the data collection tool. Also, count the number of patients without a urinary catheter (prevalence data). The patient's bedside nurse should note the catheter's presence and evaluate the indication during the patient's daily nursing assessment.
Months 4-18: (Sustainability) Surveillance will be conducted on all patients on the nursing unit for 5 consecutive days every quarter for 5 quarters. The number of patients with and without urinary catheters will be recorded. The patient's bedside nurse should note the catheter's presence and evaluate the indication during the patient's daily nursing assessment.

Data Presentation: Urinary catheter data will be presented to the nurse manager and case manager (or assigned champion) periodically following the intervention (weeks 5-6). The nurse

manager will be responsible to present the data to the nursing staff. Data can be presented at shift change, at staff meetings or various communication options.

Urinary Catheter Indications

- Acute urinary retention or obstruction
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/comfort care/palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission
- Accurate measurement of urinary output in the critically ill patients (intensive care)

Urinary Catheter Non-Indications

- Urine output monitoring OUTSIDE intensive care
- Incontinence
- Patients transferred from intensive care to general units
- Prolonged postoperative use
- Morbid obesity
- Immobility
- Confusion or dementia
- Patient request

Questions to be asked during meeting with the nurse manager

- Type of patients on unit (be prepared to address specific population issues)
- Rounding schedule (what time)
- Best time to educate staff
- Midlevel providers (physician assistants and nurse practitioners) on unit
- What is the nursing unit's procedure for incontinent patients?
- Staffing ratio

Incontinence Tips

Please refer to "Skin Care in the Incontinent Patient" handout.

PRESENTATION TO NURSING STAFF

- Set up meeting with the unit staff for Friday of Week 2 to educate them about the urinary catheter program. Meeting times to consider are during change of shift so that two shifts can attend or during a staff meeting.

Agenda for (15 minute) meeting

- Be prepared and concise! Nursing staff will be anxious to get report and get started with their day.
- Bring pocket cards, fact sheets, posters, and brochures to distribute (Section I).
- *Goals of the Program:*
Educate nurses on appropriate placement and management of urinary catheters
Decrease unnecessary urinary catheter use
Decrease catheter-associated urinary tract infection
Improve patient safety
- *Implementation of the Program*
Let the nurses know that you will be attending nursing rounds daily (Monday – Friday) with nurse manger/case manager/social worker and nurse assigned to patient for 2 weeks. Each staff nurse needs to be instructed to report urinary catheters present on their patients and indications why. If proper indications are not met then the physician needs to be contacted by the staff nurse to obtain an order to discontinue the urinary catheter. Also inform them that after the 2 weeks, they are expected to independently evaluate the need for the urinary catheter on a daily basis.

Presentation to Nursing Staff

Urinary Catheter Indications

- Acute urinary retention or obstruction: inability to empty bladder (includes enlarged prostate, problem with urethra or clot, edematous scrotum or penis, Gross hematuria/clots, neurogenic bladder)
- Perioperative use in selected surgeries (urologic surgeries or other surgeries that may require large amounts of intravenous fluids; the majority of non-urologic surgeries that require urinary catheter placement for surgery will not need the urinary catheter by postoperative day #1)
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/comfort/ palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission
- Accurate measurement of urinary output in the critically ill patients (intensive care)

Urinary Catheter Non-Indications

- Urine output monitoring OUTSIDE intensive care
- Incontinence (place on toileting routine, change frequently)
- Patients transferred from intensive care to general units
- Prolonged postoperative use
- Morbid obesity
- Immobility (turn patient q 2 hours, up in chair)
- Confusion or dementia
- Patient request

Tips

- Evaluate need for urinary catheter daily.
- If there is not an indication, call physician for order to discontinue.
- For Incontinence Care, please refer to handout in this section (Section I) “Skin Care in the Incontinent Patient.”

PRESENTATION OF DATA

- Analyze data and present results to nurse manager/case manager and nursing staff.
- Show your data graphically including urinary catheter utilization and the percentage of unnecessary catheters.
- Email data results to nurse manager.
- Plan 1: (If time permits) Present results to unit staff at shift change, allowing time for questions and answers.
- Plan 2: Have nurse manager present data results at staff meeting.
- Suggest displaying data graphs in work area for review among peers.

Skin Care in the Incontinent Patient

An indwelling urinary catheter is not the answer for urinary incontinence.

- Good skin care technique will prevent skin breakdown:
 - Use perineal cleansing products as needed.
 - Avoid use of agents containing alcohol as they are too drying to the skin.
 - Use moisture barrier cream and/or Barrier Wipe.
 - Turn patient every 2 hours.
 - Modify environment to be conducive to maintaining independence with continence.

- Minimize contact of urine to skin:
 - Use only one quilted cloth pad for incontinence.
 - Eliminate use of plastic backed pads.
 - Promptly clean urine-soaked linens and gowns.

- Develop toileting program:
 - Answering call lights promptly
 - Offer bed pan every 2 hours—*no exceptions!*

***You may want to insert techniques and/or products that are in accordance to your facility's wound care protocol.**

Helpful Hints When Educating Nursing Staff

1. The nurse manager should be physically present to support program.
2. You need to have buy-in from the nurse manager to drive the issue of urinary catheter removal and to hold staff accountable.
3. The best times to educate staff are at change of shift or during staff meetings.
4. Be prepared and concise due to limited time!
5. Leave material for staff to read after the education is complete.
6. The nurse manager should be reminded to educate staff not in attendance.
7. Distribute “Skin Care in the Incontinent Patient” handout (refer the manager packet in Section I).
8. During the implementation period, continue to educate staff and distribute Urinary Catheter Pocket Cards (Section I).

**Sample Letter to Nurse Manager/Case Manager for
Implementation of Urinary Catheter Initiative**

[Date]

Re: Implementation of Urinary Catheter Initiative

Dear Nurse Manager/Case Manager,

Approximately 600,000 patients develop hospital-acquired urinary tract infections per year and account for 40% of all hospital-acquired infections. On average, 40 - 50% of the patients with urinary catheters do not have a valid indication for placement.

As part of our continuing efforts to provide quality care, we will soon begin the implementation of the Urinary Catheter Initiative on your unit on *insert date*. The project includes two weeks of urinary catheter surveillance to be conducted on all patients followed by two weeks of participating in the unit's nursing rounds.

I would like to meet with you to discuss the project's details. The meeting should last no longer than 30 minutes. Please let me know what times you are available.

Thank you in advance for your time.

Yours sincerely,

Sample Letter to Nurse Manager after Finishing Staff Education

[Date]

Re: Completed **[Unit]** Staff Education

Dear Nurse Manager,

Please note that the Urinary Catheter Initiative education was conducted on your unit on **[insert date]**. Educational materials (brochures, pocket cards, etc) were distributed.

I encourage you to continue to promote this program and educate the staff who were not in attendance.

Thank you for your continued support.

Sincerely,

Sample Letter: Reminder to Nurse Manager that Rounds are Beginning

[Date]

Re: Urinary Catheter Initiative Rounds to Begin

Dear Nurse Manager,

Just a reminder: I will be attending your daily nursing rounds for two weeks, starting Monday, **[month-date]**. At that time, I will be assessing appropriateness of urinary catheter usage and re-educating nurses on urinary catheters indications and contraindications, as needed.

If you should have any questions, please contact me at **[insert contact phone and email]**.

Thank you for your support. We look forward to working with you.

Sincerely,

Sample Letter: Results to Nurse Manager and Director

[Date]

Re: Urinary Catheter Initiative Results

Dear Nurse Manager,
(cc Director and Case Manager)

I wanted to thank you and all the [Unit Name] staff for supporting the Urinary Catheter Initiative. I appreciate the time and effort of all [Unit Name] staff members for assessing and removing unnecessary urinary catheters. Nursing ownership of this best practice is one of the program's primary goals—without it, progress would not be possible.

Enclosed you will find the results for [Unit Name]. Please review this data and share it with your staff. If you have any questions feel free to call me. I will continue to monitor [Unit Name] and provide you with periodic updates.

Thank you,

(Attach results in graphic form)

J. REFERENCES

References:

Magnitude of the Problem:

- Gokula RR, Hickner JA, Smith MA. Inappropriate use of urinary catheters in elderly patients at a midwestern community teaching hospital. *Am J Infect Control* 2004;32(4):196-199.
- Munasinghe RL, Yazdani H, Siddique M, Hafeez W. Appropriateness of use of indwelling urinary catheters in patients admitted to the medical service. *Infect Control Hosp Epidemiol* 2001;22(10):647-649.
- Saint S, Lipsky BA, Goold SD. Indwelling urinary catheters: a one-point restraint? *Ann Intern Med* 2002;137(2):125-127.
- Wald HL, Epstein AM, Radcliff TA, Kramer AM. Extended use of urinary catheters in older surgical patients: a patient safety problem? *Infect Control Hosp Epidemiol* 2008;29(2):116-124.
- Saint S, Wiese J, Amory JK, et al. Are physicians aware of which of their patients have indwelling urinary catheters? *Am J Med.* 2000;109(6):476-480.
- Hazelett SE, Tsai M, Gareri M, Allen K. The association between indwelling urinary catheter use in the elderly and urinary tract infection in acute care. *BMC Geriatr* 2006;6:15.
- Saint S, Kaufman SR, Rogers MA, Baker PD, Boyko EJ, Lipsky BA. Risk factors for nosocomial urinary tract-related bacteremia: a case-control study. *Am J Infect Control* 2006;34(7):401-407.
- Saint S, Kowalski CP, Forman J, et al. A multicenter qualitative study on preventing hospital-acquired urinary tract infection in US hospitals. *Infect Control Hosp Epidemiol* 2008;29(4):333-341.
- Saint S, Kowalski CP, Kaufman SR, et al. Preventing hospital-acquired urinary tract infection in the United States: a national study. *Clin Infect Dis* 2008;46(2):243-250.
- Saint S. Clinical and economic consequences of nosocomial catheter-related bacteriuria. *Am J Infect Control* 2000;28(1):68-75.

Guidelines and reviews:

- Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA. Guideline for Prevention of Catheter-Associated Urinary Tract Infections 2009. *Infect Control Hosp Epidemiol* 2010;31(4):319-326.
- Lo E, Nicolle L, Classen D, et al. Strategies to prevent catheter-associated urinary tract infections in acute care hospitals. *Infect Control Hosp Epidemiol* 2008;29 Suppl 1:S41-50.
- Hooton TM, Bradley SF, Cardenas DD, et al. Diagnosis, Prevention, and Treatment of Catheter-Associated Urinary Tract Infection in Adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. *Clin Infect Dis* 2010;50(5):625-663.
- Maki DG, Tambyah PA. Engineering out the risk for infection with urinary catheters. *Emerg Infect Dis* 2001;7(2):342-347.
- Nicolle LE. The prevention of hospital-acquired urinary tract infection. *Clin Infect Dis* 2008;46(2):251-253.
- Nicolle LE. Catheter-acquired urinary tract infection: the once and future guidelines. *Infect Control Hosp Epidemiol.* Apr 2010;31(4):327-329.
- Saint S, Olmsted RN, Fakhri MG, et al. Translating health care-associated urinary tract infection prevention research into practice via the bladder bundle. *Jt Comm J Qual Patient Saf* 2009;35(9):449-455.
- Meddings J, Rogers MA, Macy M, Saint S. Systematic review and meta-analysis: reminder systems to reduce catheter-associated urinary tract infections and urinary catheter use in hospitalized patients. *Clin Infect Dis* 2010;51(5):550-560.

Interventions to reduce inappropriate utilization:

- Fakih MG, Pena ME, Shemes S, et al. Effect of Establishing Guidelines on Appropriate Urinary Catheter Placement. *Acad Emerg Med* 2010;17(3):337-340.
- Fakih MG, Dueweke C, Meisner S, et al. Effect of nurse-led multidisciplinary rounds on reducing the unnecessary use of urinary catheterization in hospitalized patients. *Infect Control Hosp Epidemiol* 2008;29(9):815-819.
- Loeb M, Hunt D, O'Halloran K, et al. Stop orders to reduce inappropriate urinary catheterization in hospitalized patients: a randomized controlled trial. *J Gen Intern Med* 2008;23(6):816-820.
- Saint S, Kaufman SR, Rogers MA, et al. Condom versus indwelling urinary catheters: a randomized trial. *J Am Geriatr Soc* 2006;54(7):1055-1061.
- Stephan F, Sax H, Wachsmuth M, et al. Reduction of urinary tract infection and antibiotic use after surgery: a controlled, prospective, before-after intervention study. *Clin Infect Dis* 2006;42(11):1544-1551.
- Topal J, Conklin S, Camp K, et al. Prevention of nosocomial catheter-associated urinary tract infections through computerized feedback to physicians and a nurse-directed protocol. *Am J Med Qual* 2005;20(3):121-126.
- Huang WC, Wann SR, Lin SL, et al. Catheter-Associated Urinary Tract Infections in Intensive Care Units can be Reduced by Prompting Physicians to Remove Unnecessary Catheters. *Infect Control Hosp Epidemiol* 2004; 25: 974-978.
- Voss AB. Incidence and duration of urinary catheters in hospitalized older adults: before and after implementing a geriatric protocol. *J Gerontol Nurs* 2009;35(6):35-41.
- Saint S, Kaufman SR, Thompson M, et al. A reminder reduces urinary catheterization in hospitalized patients. *Jt Comm J Qual Patient Saf*. Aug 2005;31(8):455-462.