

Preventing CAUTI: In Search of the 'Aha' Moment in Infection Prevention

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Innovation: Directional vs Intersectional

- Directional innovation = incremental; very common
- Intersectional innovation = game-changer
 - ❖ Surprising and fascinating
 - ❖ Go in new directions and open new fields
 - ❖ Provides source of *directional innovation* for years
 - ❖ Can affect the world in unprecedented ways

Outline

- ✓ Aha Moments
- Preventing CAUTI
- Different Approaches?
- Conclusions



Catheter-Associated Urinary Tract Infection (CAUTI)

- A common infection
- 1/4 of inpatients receive catheters
- 1/3 of catheter days unnecessary
- 1/3 of physicians unaware their patient has a catheter
- 1/3 of the time no order for a catheter



Annals of Internal Medicine

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SEPTEMBER 17, 2013

Determining the Noninfectious Complications of Indwelling Urethral Catheters

A Systematic Review and Meta-analysis

John M. Hollingsworth, MD, MS; Mary A.M. Rogers, PhD; Sarah L. Krein, PhD, RN; Andrew Hickner, MSI; Latoya Kuhn, MPH; Alex Cheng, MD; Robert Chang, MD; and Sanjay Saint, MD, MPH

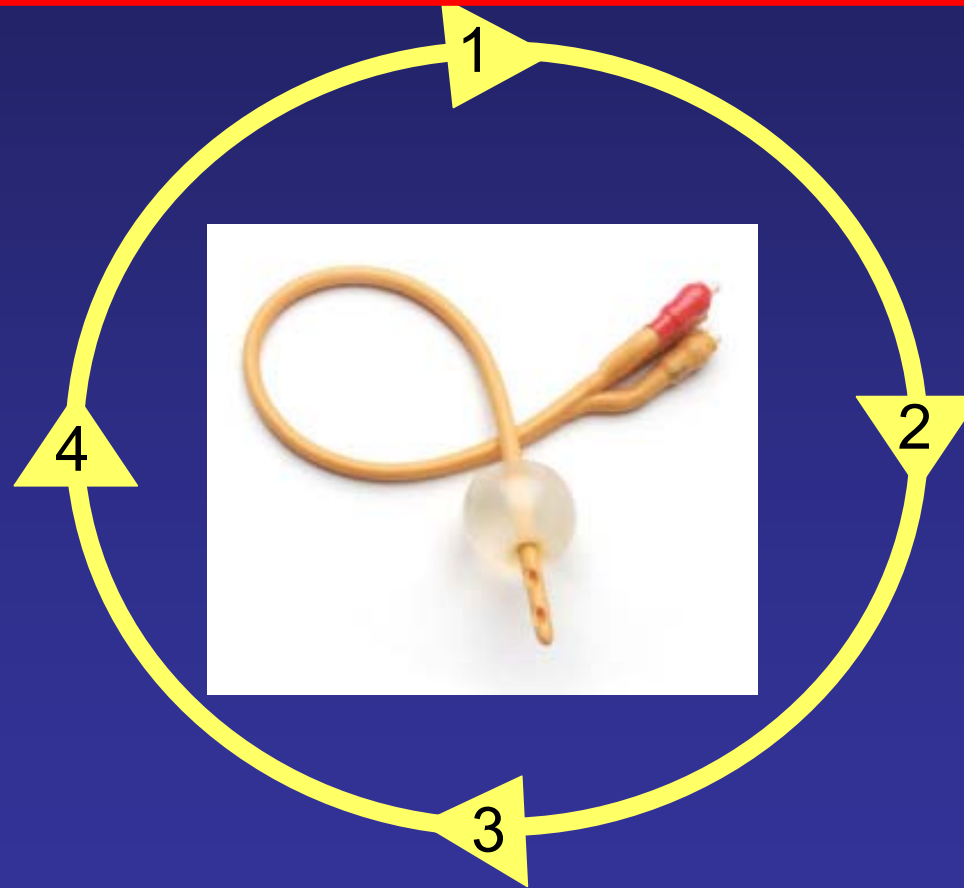
“Many noninfectious catheter-associated complications are at least as common as clinically significant urinary tract infections.”

*How can we reduce catheter
use and prevent CAUTI?*

Disrupting the Lifecycle of the Urinary Catheter

1. Preventing Unnecessary and Improper Placement

4. Preventing Catheter Replacement



2. Maintaining Awareness & Proper Care of Catheters

3. Prompting Catheter Removal

***Evidence-based guidance
on when to use a Foley or
condom catheter or straight
catheterization...***

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Supplement

to Annals of Internal Medicine

The Ann Arbor Criteria for Appropriate Urinary Catheter Use in Hospitalized Medical Patients: Results Obtained by Using the RAND/UCLA Appropriateness Method

Jennifer Meddings, MD, MSc; Sanjay Saint, MD, MPH; Karen E. Fowler, MPH; Elissa Gaies, MD, MPH; Andrew Hickner, MSI; Sarah L. Krein, PhD, RN; and Steven J. Bernstein MD, MPH

In Pursuit of Appropriate Urinary Catheter Indications: Details Matter

Carolyn V. Gould, MD, MSCR

But if the patient really,
really needs a Foley...

Ensure proper aseptic technique
is used during insertion

Indwelling Urinary Catheter Insertion

(Manojlovich et al. *Infect Control Hosp Epidemiol.* 2015)

- Prospectively observed 81 catheter insertions in a level 1 trauma center emergency department

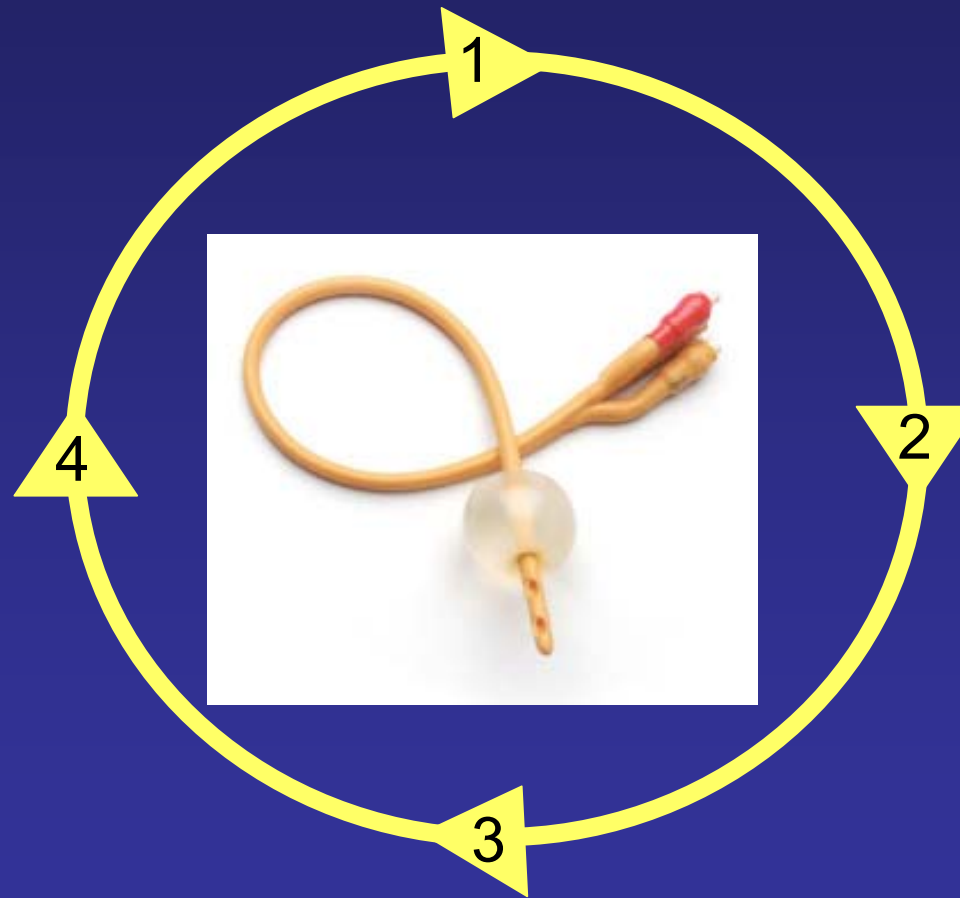
59% of the attempts had at least 1 major break in aseptic insertion technique

- Examples of major breaks of sterility:
 - Touching items on sterile field with bare hands
 - Catheter tip touching something before insertion

Disrupting the Lifecycle of the Urinary Catheter

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Timely Removal of Indwelling Catheters

- 30 studies have evaluated urinary catheter reminders and stop-orders
 - Significant reduction in catheter-associated urinary tract infection (53%)
 - No evidence of harm (ie, re-insertion)
 - Will also address the non-infectious harms of the Foley

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A Program to Prevent Catheter-Associated Urinary Tract
Infection in Acute Care

Sanjay Saint, M.D., M.P.H., M. Todd Greene, Ph.D., M.P.H., Sarah L. Krein, Ph.D., R.N., Mary A.M. Rogers, Ph.D.,
David Ratz, M.S., Karen E. Fowler, M.P.H., Barbara S. Edson, R.N., M.B.A., M.H.A.,
Sam R. Watson, M.S.A., C.P.P.S., Barbara Meyer-Lucas, M.D., M.H.S.A., Marie Masuga, R.N., M.S.N.,
Kelly Faulkner, M.S.P.A., Carolyn V. Gould, M.D., M.S.C.R., James Battles, Ph.D.,
and Mohamad G. Fakh, M.D., M.P.H.

Preventing CAUTI in Acute Care

(Saint et al. N Engl J Med 2016)

- Federally-funded national program
- Total of 603 hospitals (926 units) in 32 states, DC, & Puerto Rico
- ~60% non-ICU; ~40% ICU
- Non-ICUs: CAUTI reduced by 32% (& decrease in catheter use)
- ICUs: no change in CAUTI or catheter use

The *key* intervention is having the bedside nurse assess daily whether the catheter is necessary.

What about the ICU?

Just because a patient is in the ICU
does NOT mean that the patient
needs a Foley...

The Key Question is this:

Are hourly assessments of
urine output required?

Preventing Infection



Technical



*Socio-
adaptive*

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The first intersectional innovation is to apply principles from cognitive psychology.

*The 2nd intersectional
innovation to consider is
applying sociological principles
to prevent infection*

Relevance to preventing CAUTI

Nurse-initiated Foley removal protocols work better in hospitals with low power distance.

*Anticipate human-related barriers
regardless of culture.*

Active Resistors





Organizational Constipators

Applying these Principles to CAUTI Prevention...

**Step 1: Form a multidisciplinary
CAUTI prevention team**

Key Roles and Responsibilities to Prevent CAUTI

Role or Responsibility	Example of Personnel to Consider
Project coordinator	IP, quality manager, nurse manager, nurse educator
Nurse champion (engage nursing personnel)	Bedside nurse, nurse educator, unit manager, charge nurse
Physician champion (engage medical personnel)	ID physician, hospitalist, hospital epidemiologist, urologist, ED doc
Data collection, monitoring, reporting	Infection preventionist, quality manager, utilization manager

(Modified from www.catheterout.org)

The 6 Steps to Success

- ✓ Form a multidisciplinary CAUTI prevention team
- 2) Develop/modify a CAUTI policy for your institution
- 3) Pick an appropriate unit to start or go hospital-wide
- 4) Track performance and then escalate as necessary
- 5) Once successful, spread to other places
- 6) Consider sustainability at the outset; hard-wiring is worth the effort

*It is always good to have a
Plan B:*

*How can we provide tailored
guidance for the ~5000
hospitals in the United States?*

CAUTI Guide to Patient Safety (GPS) (www.catheterout.org)

- Brief, trouble-shooting validated guide available on-line
(Saint et al. AJIC 2014; Fletcher et al. AJIC 2016)
- 10 questions:
 - *Do you have a well-functioning team?*
 - *Do you have a project manager with dedicated time?*
 - *Do you have an effective nurse champion?*
- Help identify the key reasons why hospitals may not be successful in preventing an infection
- Once barriers identified, can help identify possible solutions

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Conclusions

- Preventing hospital infection is important
- CAUTI is a prototypical patient safety problem: preventing infection is both simple and complex
- Diverse approaches may help
- Finally...

*Please consider
3 simple
leadership rules.*



“I can think of no one else in infection prevention that has contributed more to our profession and scientific body of knowledge than Bill Rutala – and always so generous, gracious, with a smile, and a terrific sense of humor.”



Gina Pugliese, Vice President Emeritus,
Premier Safety Institute

“Bill, our paths have crossed so many times over the past several years, and each time I continue to be even more impressed with your dedication, knowledge and passion for infection prevention.”



Linda Greene, CIC
APIC President

“Bill... As you retire and reminisce about how you and your dear friend Marty Favero enriched the lives of so many women in infection control all around the world, we say a heartfelt thank you

and hope that in retirement you, Donna, Melissa, and Meredith now get to enjoy extended time together as a family. With friendship and admiration always.”



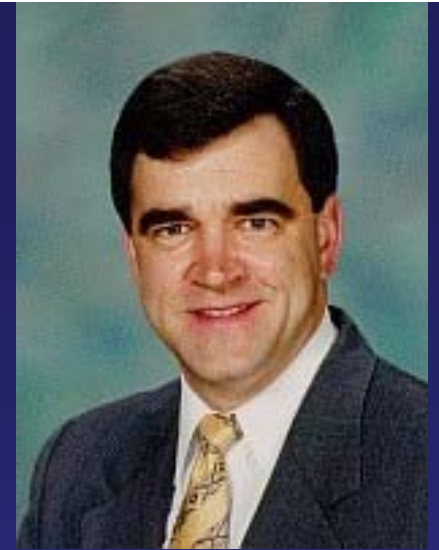
Sue Resnik & Cath Murphy
Gold Coast, Australia



Marty Favero, PhD

“Bill, congratulations on your retirement. Stay away from those weird restaurants around the world that we went to so you don't get food poisoning. And finally, I got a note from Larry Muscarella and he said he's coming to your retirement and bringing all of his relatives. Best wishes to you and Donna.”

“Bill's distinguished career in healthcare epidemiology has had an extraordinary and monumental impact around the world. Bill has achieved such heights because of his mentoring, generosity, unwavering adherence to scientific query, and friendship to all.”



Russ Olmsted, MPH

“Dear Bill, my heartfelt congratulations on your retirement! Thank you for the indelible mark you've made on us all and to your family, all the best. On the advent of this celebration I am making a motion that we revise the Spaulding Criteria to now read: The Spaulding-Rutala Approach to Disinfection and Sterilization of Patient Care Items or Equipment.”

“When I was a fellow in infectious diseases, William Rutala was the reference for anything related with disinfection and sterilization.

When I was a junior faculty in infection prevention and control, Bill Rutala was the reference for anything related with disinfection and sterilization.

Now that I am the Director of the infection control program, Bill is still the reference for anything related with disinfection and sterilization.

Thanks Bill, it is an honor to know you!”



**Didier Pittet, MD, MS
(U of Geneva and WHO)**

“Dearest Colleague Bill:

I know that nobody is indispensable, but what are we going to do without Dr. Disinfection? Your contributions are irreplaceable and unique in the field. You are loved by all. Now, on to the next exciting phase with our blessing and best wishes!”

-- Elaine Larson, RN, PhD



Thank you!

