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Silver alloy-coated urinary catheters: Preventing Urinary Tract Infection

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Disclosures

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Overview

- Introduction
- Reflective Practice
- Clinical Decision
- Literature Review (Evidence-based)
- Project Design
- Findings
- Implication to Practice
- Acknowledgement

Introduction

DEFINITION OF TERMS:

- Catheter associated UTI
- Symptomatic vs Asymptomatic bacteriuria
- Non-UTI syndrome

Reflective Practice

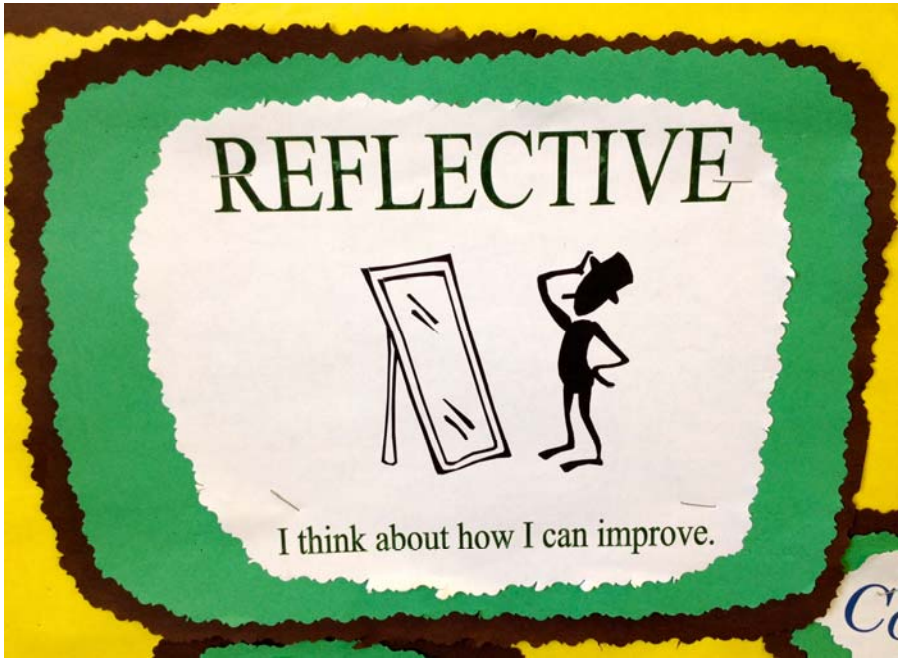

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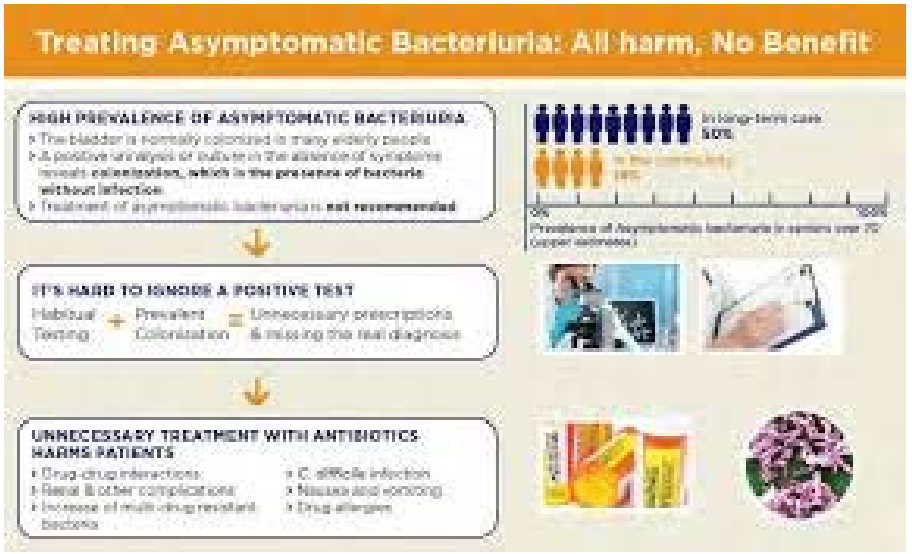
Image retrieved from
https://davidberrydotcom1.files.wordpress.com/2014/04/img_1432.jpg

Kurt Lewin's Change model

(*Cummings et al., 2016)*

Clinical Decision



ED_Detailing Sheet.pdf (macoalition.org)

Evidence

Aljohi, A. A., Hassan, H. E., & Gupta, R. K. (2016). The efficacy of noble metal alloy urinary catheters in reducing catheter-associated urinary tract infection. *Urology Annals*, *8*(4), 423–429. https://doi.org/10.4103/0974-7796.192099

Banaszek, D., Inglis, T., Ritchie, L., Belanger, L., Ailon, T., Charest-Morin, R., Dea, N., Kwon, B. K., Paquette, S., Fisher, C. G., Dvorak, M. F., & Street, J. T. (2020). Effectiveness of silver alloy-coated silicone urinary catheters in patients with acute traumatic cervical spinal cord injury: Results of a quality improvement initiative. *Journal of Clinical Neuroscience: Official Journal of the Neurosurgical Society of Australasia*, *78*, 135–138. https://doi.org/10.1016/j.jocn.2020.05.036

Bonfill, X., Rigau, D., Jáuregui-Abrisqueta, M. L., Barrera Chacón, J. M., de la Barrera, S. S., Alemán-Sánchez, C. M., Bea-Muñoz, M., Moraleda Pérez, S., Borau Duran, A., Espinosa Quirós, J. R., Ledesma Romano, L., Fuertes, M. E., Araya, I., & Martínez-Zapata, M. J. (2013). A randomized controlled trial to assess the efficacy and cost-effectiveness of urinary catheters with silver alloy coating in spinal cord injured patients: Trial protocol. *BMC Urology*, *13*, 38. https://doi.org/10.1186/1471-2490-13-38

EVIDENCE (I)

Chung, P. H., Wong, C. W., Lai, C. K., Siu, H. K., Tsang, D. N., Yeung, K. Y., Ip, D. K., & Tam, P. K. (2017). A prospective interventional study to examine the effect of a silver alloy and hydrogel-coated catheter on the incidence of catheter-associated urinary tract infection. *Hong Kong medical journal = Xianggang yi xue za zhi*, *23*(3), 239–245. https://doi.org/10.12809/hkmj164906

Davenport, K., & Keeley, F. X. (2005). Evidence for the use of silver-alloy-coated urethral catheters. *The Journal of Hospital Infection*, *60*(4), 298–303. https://doi.org/10.1016/j.jhin.2005.01.026

Kai-Larsen, Y., Grass, S., Mody, B., Upadhyay, S., Trivedi, H. L., Pal, D. K., Babu, S., Bawari, B., & Singh, S. K. (2021). Foley catheter with noble metal alloy coating for preventing catheter-associated urinary tract infections: A large, multi-center clinical trial. *Antimicrobial Resistance and Infection Control*, *10*(1), 40. https://doi.org/10.1186/s13756-021-00907-w

Practice Question

P: In elderly patients ages 55-99, with chronic catheter use and recurrent urinary tract infections (UTI)

I: Silver alloy-coated urinary catheter

C: Regular indwelling urinary Catheter

O: Prevention of frequent urinary tract infection

T: 5 weeks

Project design

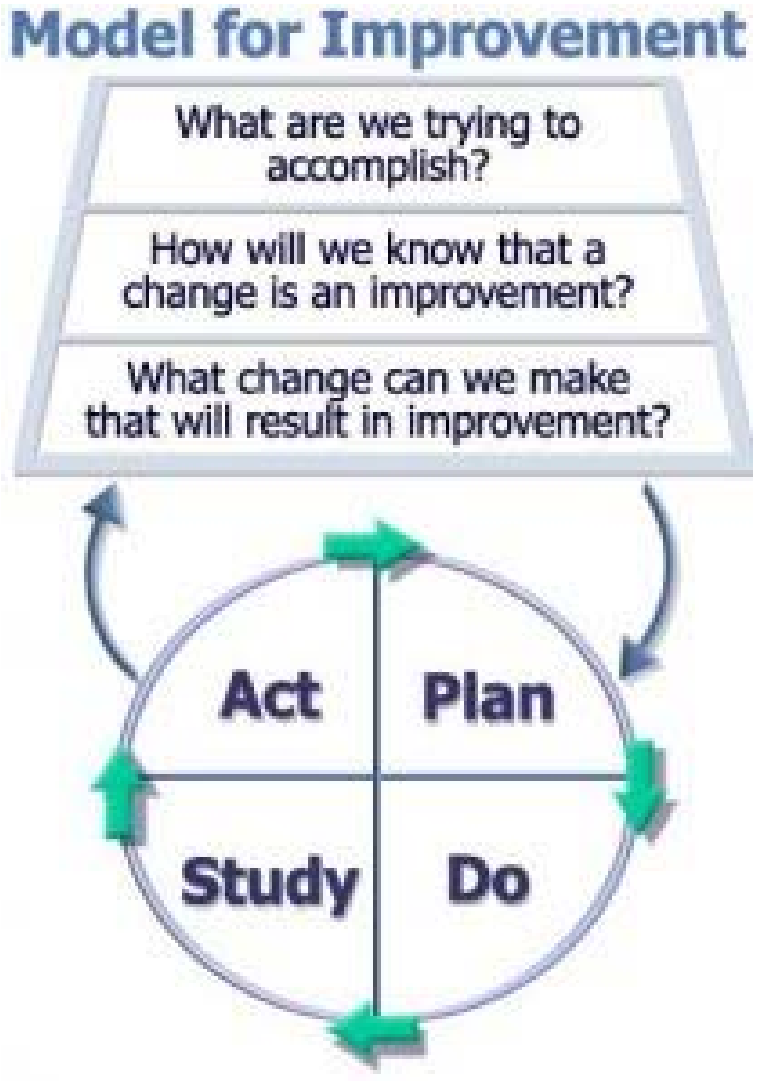
Proposal and Work Letter

Institutional Review Board

Work Setting and demographics

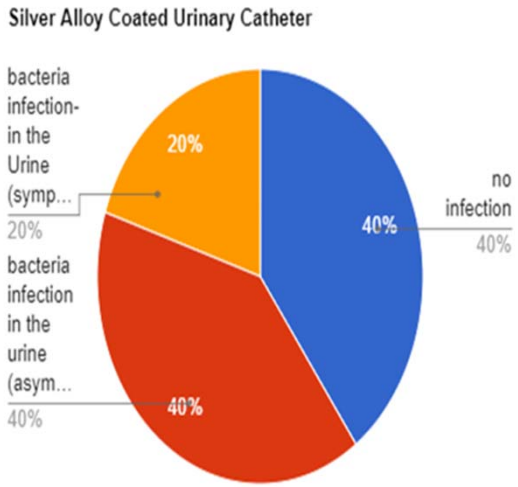
Plan- Do-Study-Act

Aim	Aim—Prevention of Urinary tract infection
Goal/Measure	Goal/Measure: No catheter-associated UTI
Use	Intervention: Use of silver alloy-coated urinary catheter



Institute for Healthcare Improvement (2022).

Findings



Type Of Bacteria

#	No Infection	Bacteria Infection in the Urine (Asymptomatic)	Bacteria Infection in the Urine (Sympotomatic w/ UTI)
1	Negative Urinalysis		
2	Negative Urinalysis		
3		Klebsiela Pneumonia	
4	-	E. Coli, ESBL, Pseudomonas Aeriginosa	
5	-		Enterococcus Fecalis, Candida Albicans

Implication To Practice

RELEVANCE
Effectiveness of Silver alloy-coated urinary catheter
Less mortality and morbidity
Less medical costs associated with CAUTI.
LIMITATION
Cost
Patient size
Duration

Acknowledgement

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END

THANK YOU

QUESTIONS