



**July 2017**

## Unintended Consequences

*SLC CMO's Corner*

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### Calendar of Events

#### JULY

**7 / 24 - Obstetrics EPT**

#### AUGUST

**8 / 4 - Cardiac EPT**

**8 / 9 - Critical Care EPT**

**8 / 10 - Anesthesia EPT**

**8 / 23 - Infectious Disease EPT**

**8 / 30 - Primary Care EPT**

#### SEPTEMBER

**9 / 7 - Behavioral Medicine EPT**

#### OCTOBER

**10 / 25 - Medicine EPT**

#### NOVEMBER

**11 / 8 - Critical Care EPT &  
Council of Chairs**

**11 / 9 - Anesthesia EPT**

Those of us trained in medicine, regardless of our discipline or specialty, are taught to evaluate a patient and begin an appropriate treatment plan based on that evaluation. Sometimes our desire to help the patient blinds us to the potential unintended consequences of our proposed treatment plan.

Let's talk specifically about antibiotic utilization. Inappropriate use of antibiotics is very common, especially in the outpatient setting. Studies have shown that at least 30 percent of antibiotics are inappropriately prescribed with some studies suggesting greater than 50 percent. Unfortunately, inappropriate antibiotic use can lead to unintended consequences such as the development of Clostridium Difficile (*C. diff*) colitis or increased antibiotic resistance to a given pathogen.

Regarding the risk of developing *C. diff* after antibiotic administration, the greatest risk is for patients that have received broad spectrum antibiotics, particularly with the use of fluoroquinolones, clindamycin, broad spectrum cephalosporins, and penicillins. This newsletter contains an FDA safety warning pertaining to the use of fluoroquinolones especially for common acute infections such as sinusitis, bronchitis and urinary tract infections. Although the FDA's warning exclusively addresses the risks of neurological and muscular skeletal complications, when a prescriber considers the added potential clinical risk of developing *C. diff* colitis; it certainly should give us all a reason to pause before we prescribe this class of antibiotics. See page 2 for the Antibiotic Stewardship Program's Fluoroquinolone use improvement communication.

Thanks for taking the time to stay connected through *Saint Luke's Care Connect*. I hope you have a great Saint Luke's day!

William M Gilbirds II, MD

## EPT Updates

Saint Luke's Care Evidence-based Practice Teams (EPTs) are continuously meeting to address the needs of providers and other clinicians. Creating and modifying order sets and other clinical documents are just a few of the activities.

In order to keep up-to-date on all of the initiatives, the Clinical Project Coordination team publishes summaries that are shared with the EPT members and Saint Luke's Health System Administration.

For more information on EPT activities and Saint Luke's Care's multidisciplinary projects, click [HERE](#) to view the most recent SLC Monthly Update. Please contact the SLC staff with any questions at [saintlukescare@saint-lukes.org](mailto:saintlukescare@saint-lukes.org).

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## Fluorquinolone Use Improvement Communication

### Background:

- Fluoroquinolones are associated with tendonitis, tendon rupture, central nervous system effects, peripheral neuropathy, QTc prolongation, and *Clostridium difficile*-associated diarrhea.
- The U.S. Food and Drug Administration released a safety alert in May 2016 stating that the risks outweigh the benefits for treatment of acute bronchitis, acute sinusitis, and uncomplicated urinary tract infections (UTIs) with fluoroquinolones. Fluoroquinolones should be reserved for those who do not have alternative treatment options (i.e. drug allergies).
- Fluoroquinolones have also been show to have decreasing reliability in covering common UTI pathogens according to the SLHS antibiogram.

**Susceptibility of Gram-Negative Bacteria to Antimicrobial Agents (Urine Isolates)**

Organism	Ciprofloxacin				Levofloxacin				Nitrofurantoin				TMP/SMX*			
	SLH	SLN	SLS	SLE	SLH	SLN	SLS	SLE	SLH	SLN	SLS	SLE	SLH	SLN	SLS	SLE
<i>E. coli</i>	67	75	72	67	67	75	73	67	95	95	95	94	77	74	75	75
<i>P. aeruginosa</i>	63	68	71	62	65	68	77	61	-	-	-	-	-	-	-	-
<i>P. mirabilis</i>	68	56	81	56	68	56	81	56	-	-	-	-	67	60	76	51
<i>K. pneumoniae</i>	95	99	96	95	95	99	96	96	-	-	-	-	90	91	85	97
<i>Enterobacter species</i>	100	95	-	98	100	92	-	98	-	-	-	-	97	95	-	90

\* TMP/SMX = trimethoprim/sulfamethoxazole

Source: <http://sharepoint.saint-lukes.org/corp/epiccomm/epicdocs/SitePages/Antibiograms.aspx>

### Recommendation:

Fluoroquinolones are often used as second-line therapies for the treatment of sinusitis and uncomplicated UTIs. Antibiotics are not recommended for acute uncomplicated bronchitis. Treatment options outlined below may be more appropriate first-line therapies, thus reducing the incidence of the harmful adverse effects associated with fluoroquinolone use.

	First-line Therapy	Second-line Therapy
<b>Bronchitis<sup>1</sup></b>	<b>Antibiotics not recommended</b>  Symptomatic therapy (cough suppressants, antihistamines, decongestants, beta-agonists)	
<b>Sinusitis<sup>2</sup></b>	<b>Most are viral</b>  Amoxicillin/clavulanate (Augmentin) if bacterial suspected based on severity and duration of symptoms	Doxycycline Levofloxacin (Levaquin) or Moxifloxacin (Avelox)
<b>Uncomplicated UTIs<sup>3</sup></b>	<b>Avoid treatment of asymptomatic bacteriuria</b>  If symptomatic: Nitrofurantoin (Macrobid) Trimethoprim/sulfamethazole (Bactrim)	Beta-lactams Fluoroquinolones**

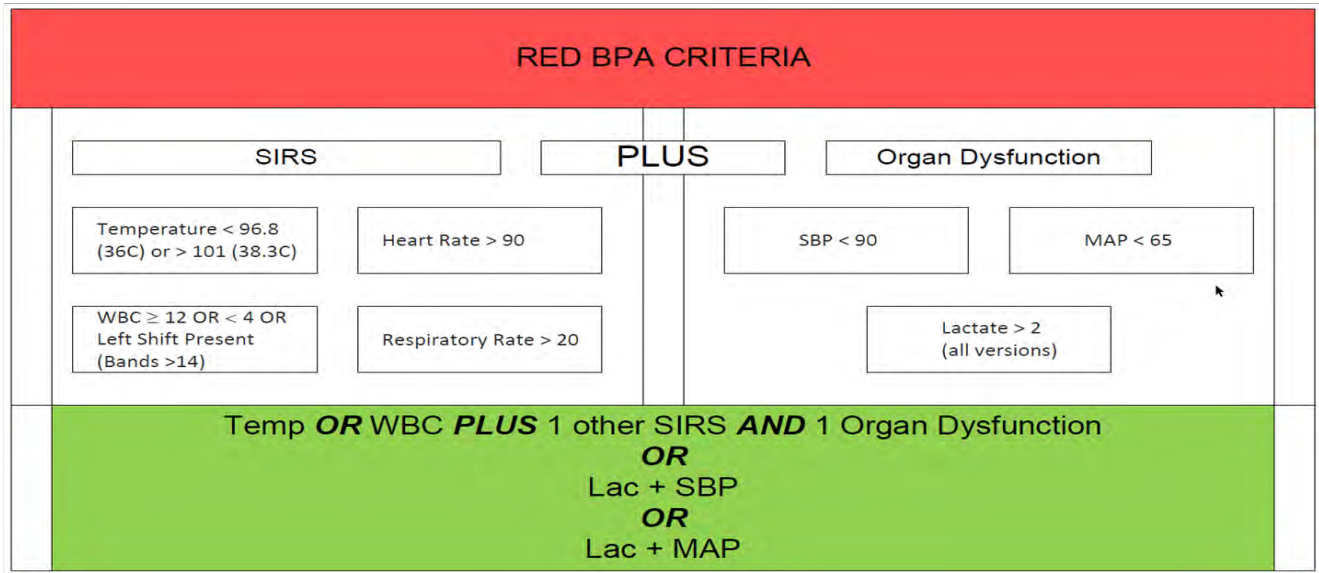
\*\*Fluoroquinolones should be reserved those patients in which the other therapy options are not an alternative

- References:
1. Adult treatment recommendations. Centers for Disease Control and Prevention. March 4, 2016. Available from <http://www.cdc.gov/getsmart/community/for-hcp/outpatient-hcp/adult-treatment-rec.html>.
  2. Chow A, et al. IDSA clinical practice guideline for acute bacterial rhinosinusitis in children and adults. *Clinical Infectious Diseases*. 2012; 54 (8): e72-e112.
  3. Gupta K, et al. International clinical practice guidelines for the treatment of uncomplicated cystitis and pyelonephritis in women: a 2010 update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. *Clinical Infectious Diseases*. 2011; 52 (5): e103-120.

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## ED Sepsis BPA - Go-Live

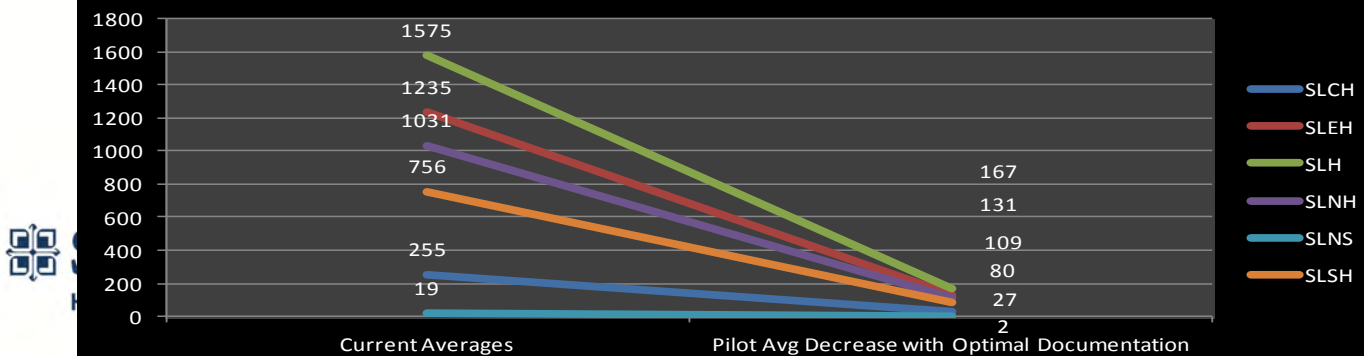
Saint Luke's East and Saint Luke's Northland Hospitals completed three month pilots of a new Sepsis BPA within the ED in the first quarter of 2017. The final recommendations from the pilots were approved by both the Saint Luke's Health System ED Practice Council and the Emergency Medicine Evidence-based Practice Team. The updated nursing BPA went live July 11, 2017. Click [HERE](#) if you would like more detailed information about the project.



### The ED Sepsis BPA pilot revealed the following benefits:

1. Decreased volume - Average decrease of 74% in total BPA fires
  - Red BPA was maintained
  - Yellow BPA was removed
2. Accurate identification of Severe Sepsis & Septic Shock - Average greater than 97% capture rate
3. Easier documentation
  - Documentation of Provider notification was moved from a flow sheet to a Sepsis portion of the ED Narrator as well as a pop up box within the BPA
  - Documentation shuts the BPA off for 12 hours

**Current Average Volume of BPAs versus Potential Average Volume with New BPA & Optimal Documentation per Month**



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## *SHOUT OUTS!*

### **Chris Ballard and Peter Schaad**

Chris and Peter have worked on multiple Smart set demo videos that have been a key tool in disseminating new content to SLC physicians and APPs. Their work has been pivotal for a new “wave” of smart sets that have imbedded clinical decision support – something that doesn’t translate well using static pictures or screen shots. They are so enthusiastic about their work and it seems each demo video they produce has a new presentation feature that is superior to the last. We can’t thank them enough for their dedication to the creation of these videos. Excellent job!

### **Theresa Lockwood, Leigh Ann Milburn, and Greg Teale**

Theresa, Leigh Ann, and Greg deserve recognition for their efforts on the Saint Luke's Care Type 2 Diabetes Smart Set that went live recently. They were extremely thorough in their medication review and made many important edits before finalizing this smart set. They also worked very efficiently and diligently on a reference guide for renal dosing, ensuring accurate medication recommendations were accessible to physicians through this smart set. As usual, our amazing Saint Luke’s pharmacy team left no stone unturned! We truly appreciate their hard work and commitment to improve standards of care for the diabetic patient.

### **Justine Way**

As a registered dietician on the plaza, Justine has been working to coordinate a system wide evidenced-based practice change for volume based enteral nutrition. She has spent countless hours on education and implementation efforts. This large project will be going live in a month or so. Thanks for all your hard work and energy on this project to improve the care and nutrition of our patients.

### **Tibor Mohacsi, MD**

Chair of the Anesthesia EPT, Dr. Mohacsi has been working with representatives from all other hospitals to systemize moderate and deep sedation policies. This project has several components and involves many specialties. He continues to help move this project closer to completion and has ensured that the key stakeholders have input in this process. We are very fortunate to have such a great role-model and leader for our system.

### **Joe Dietrick**

Joe is a CRNA at WMH and HMC and has volunteered his time to help with creating a system guideline and standing order for CRNA’s in Missouri to help comply with a Missouri Hospital Statement. He is extremely knowledgeable and dedicated to helping design processes that work for all. Thank you for your time and energy in this important project and your dedicated membership serving on the Anesthesia Evidenced-based Practice Team.

### **Tammy Adams**

Tammy is the Manager of Clinical Nutrition Services and has been instrumental during the development of the Enhanced Recovery after Surgery program for Colorectal Surgery. Tammy worked tirelessly to ensure that the correct nutrition supplement products were selected for this program and available in the appropriate places at the entities. Likewise, Tammy was also instrumental in developing the Sarcoid Perfusion Imaging Diet. A big thank you to Tammy for leading these vital pieces of system projects.

### **Iain McGhie, MD; Timothy Bateman, MD; and Ashley Lensing**

SLC would like to send out a special thank you to these physicians and Ashley for contributing their precious time to revamping the Myocardial Perfusion Imaging order set.



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## New Documents and Order Sets

### New Order Sets

#### Prone Positioning Medical Protocol (Plaza ONLY) – EPIC 1962

- Developed by Majdi Hamarshi, MD; Marci Ebberts; and Kristin Sollars
- Approved by the Critical Care EPT

Initiate the Prone Positioning Medical Protocol (Plaza Only) Accept Cancel

Priority:  Routine

Frequency:  Once  Until Discontinued

Starting: 6/23/2017 Today Tomorrow At: 0930

First Occurrence: **Today 0930**

Scheduled Times: [Hide Schedule](#)  
6/23/17 0930

Comments:

Reference Links: 1. Prone Positioning Medical Protocol

Accept Cancel

#### Venous Access Evaluation Manage My Version

##### General

##### Venous Access Evaluation

- SLHS Venous Access Clinical Algorithm
- SLHS Vascular Access Resources List
- Venous Access Evaluation: Physician Decision Support Tool. No Nursing Action Needed.
- Routine, Until discontinued starting Today at 1129 Until Specified

##### Line Placement

- Consult - Vascular Access Team
- Consult to Interventional Radiology IP Body
- CVPACU PLAZA ONLY - Non-tunneled dialysis catheter insertion
- CVPACU PLAZA ONLY - Central line insertion

##### Nursing Orders

- Insert peripheral IV

##### Additional Orders

#### Venous Access Evaluation – EPIC 40

- Developed by Kenneth Cho, MD and Vascular Access Nurse team
- Supported by the SLHS Venous Access Clinical Algorithm and the Vascular Access Resource List (SYS-REF-175)
- Approved by the Radiology EPT

Venous Access Evaluation: Physician Decision Support Tool, No Nursing Action Needed. Accept Cancel

Priority:  Routine

Frequency:  Until discontinued  Once  Until Discontinued

For:  Hours Days Weeks

Starting: 6/26/2017 Today Tomorrow At: 1129

Starting: **Today 1129** **Until Specified**

Scheduled Times: [Hide Schedule](#)  
6/26/17 1129

Which of the following group of characteristics is consistent with the infusates to be infused?

Comments:

#### Multimodal Postoperative Pain Management Orders

- Replaces the existing pain medication orders in the General Surgery order sets
  - ⇒ General Surgery Post-Op Orders (Inc Abd/Colon Lab/Open Proc) - EPIC 34
  - ⇒ Enhanced Recovery, General Surgery Post-Op Orders - EPIC 974
  - ⇒ Laparoscopic Bariatric Surgery Post-op Orders - EPIC 156
- Designed to factor in patient age, renal function and previous exposure to opioids
- Developed by Greg Teale, Pharm.D., BCPS
- Approved by the Surgery and Anesthesia EPTs