



March 2017

Saint Luke's Care - First Ever GRAND ROUNDS

Table of Contents

- **SLC First Ever Grand Rounds** pg 1
- **Treatment of Acute PE Update** pg 2
- **Treatment of Acute PE Order Set & References** pg 3
- **New Documents & Order Sets** pg 4
- **SLC Clinical Reference Library** pg 5
- **EPT Updates** pg 5

Calendar of events

MARCH

3 / 16 - Pediatric EPT

APRIL

4 / 12 - Primary Care EPT

4 / 20 - Behavioral Medicine EPT

4 / 24 - Emergency Medicine EPT

APRIL

5 / 5 - Cardiac EPT

5 / 10 - Critical Care EPT

5 / 10 - Council of Chairs

5 / 11 - Anesthesia EPT

Saint Luke's Care hosted its first ever Grand Rounds, **Treatment of DVT** on February 17, 2017. This interactive event featured a panel of VTE Committee members that included the following physicians:

- John Borsa, MD - Interventional Radiology
- Carl Dirks, MD - Chief Medical Information Officer
- Andrew Schlachter, MD - Critical Care / Pulmonary
- Sally Ling, MD - Hospitalist
- Nisreen Haideri, MD - Hematology / Oncology
- Staci Reintjes, DO - Emergency Medicine

Providers, residents, and other clinical staff attended the CME in person and via Live Streaming to learn from subject matter experts and case study demonstrations. Over 70 individuals attended the Grand Rounds in person and 21 joined by phone showing exceptional support for this new initiative.

Treatment of DVT CME Objectives

- Describe the journey of the VTE Committee up through the current state
- Review meaningful recent changes in evidence based treatment of DVT
- Demonstrate use of our algorithm and order set to optimize patient care through case review
- Opportunity to Q&A with our multidisciplinary expert panel of physicians

In collaboration with the Marketing department, Saint Luke's Care was granted the services of Show-Me Presentation Resources to record the event. Portions of this video will be imbedded in a Saint Luke's Care on-line CME module, which should be available in the next few months.

Please join Saint Luke's Care in thanking the following individuals for making this project such a success.

- Panel participants (listed above)
- Doug Cochran, MD - Grand Rounds Medical Director
- Liz Hager - Grand Rounds
- Rebecca Sesler - Marketing
- Ted Hodges - Marketing
- Josh Knight - Marketing
- Show-Me Presentation Resources - Recording services

March 2017

Treatment of Acute Pulmonary Embolism: UPDATE

Beginning in January 2016, a multidisciplinary team of physicians led by Interventional Radiologist John Borsa, MD came together to set the standard of care around treatment of VTE for the Saint Luke's Health System. The committee's clinical content is based off of the 2016 CHEST Guidelines. The first initiative, Treatment of Acute DVT, went live in August of 2016 and the clinical standards have been actively diffused ever since. Following early success and enthusiasm around the DVT order sets, the PE portion of the project has been highly anticipated. Physician membership is a great illustration of this excitement; starting with 9 members and expanding to 19 members throughout this process. For the past 5 months, this committee has dedicated focused time and effort in creating an evidence-based treatment algorithm for pulmonary embolism that spans the continuum of care.

Algorithm and Order Sets

New CHEST literature addresses treatment recommendations for PE including (but not limited to):

- ⇒ treatment pathway for sub segmental PE
- ⇒ early discharge/home treatment for "stable" PE
- ⇒ duration of anticoagulation
- ⇒ warfarin vs. DOACs
- ⇒ enoxaparin dosing recommendations for failed treatment

Click [here](#) to view the **Treatment Algorithm**

The algorithm highlights many of these new recommendations and includes strength of evidence. Challenges specific to Saint Luke's were also addressed, such as referrals. Early on, the team identified variance in consulting physicians for patients with PE. The group came to consensus that Interventional Radiology is the appropriate specialty, if a procedure is being considered. This comprehensive treatment pathway includes obstetrical and oncology patient populations. CHEST guidelines now recommend direct oral anticoagulants (DOAC) such as rivaroxaban and apixaban over warfarin because of increased bleeding risk. The algorithm highlights these recommendations. The algorithm is housed under SLC References in the Clinical Reference Toolbar in EPIC. It can also be found as a link within the adjacent order set.

The inpatient order set and outpatient smart set breathe life into the algorithm by transforming a powerful tool into point of care decision support for physicians caring for patients with acute PE. The order set utilizes cascading questions to lead the physician to the most appropriate treatment recommendation. These recommendations include guidance on whether to admit, who to consult, duration of treatment, follow up parameters, and choice of anticoagulant. **This is a physician-centric order set and does not include any nursing orders or care instructions, but rather, focuses on disease process and the most appropriate path based on provider interpretation of diagnosis.** The order sets went live in late February.

Best Practice Alert

A Best Practice Alert (BPA) was built to encourage compliance with the order sets. When a new diagnosis of acute PE is entered to the visit diagnosis or problem list, the BPA fires with a direct link to open the order set.

Grand Rounds & CME

Don't miss the unique opportunity to learn from a multidisciplinary panel of physicians presenting this topic live at Medical Grand Rounds during 3rd quarter 2017! This material will also be available through SLC for 1 hour of free CME.

Click [here](#) to view the CHEST guideline

Risk factors for bleeding with, and contraindications to use of, thrombolytic therapy (both systemic and focally administered)

Click [here](#) to view the CHEST guideline

Risk factors for bleeding with anticoagulant therapy and estimated risk of major bleeding in low, moderate, and high risk categories

March 2017

Treatment of Acute PE Order Set & References

Treatment of Acute PE (Inpatient and ED) Manage My Version

General PE Evaluation for Treatment

- CHEST Guideline on Antithrombotic Therapy for VTE (2016)
- Treatment of Acute PE Algorithm
- CHEST Guidelines - Table 15
- CHEST Guidelines - Tables 1, 2

Reference Materials

- PE Treatment Recommendation
- Routine, Once First occurrence Today at 1055

Consults

- Consult to Interventional Radiology
Routine, 1 time imaging
- Consult to Case Management
- Consult to Care Integration (Social Work)

Medications Inpatient Medications

- alteplase (TPA/ACTIVASE) in
100 mg, Intravenous, Once
- apixaban (ELIQUIS) tablet
- dabigatran (PRADAXA) cap
Oral, Every 12 hours schedule
- edoxaban (SAVAYSA) table
60 mg, Oral, Daily
- rivaroxaban (XARELTO) tab
- warfarin (COUMADIN) - Rx
- warfarin (COUMADIN) - pre
- enoxaparin (LOVENOX) inj
1 mg/kg, Subcutaneous, Every
- enoxaparin (LOVENOX) inj
1.5 mg/kg, Subcutaneous, Eve
- Heparin Infusion Nomogram**
WARNING: YOU MUST CHECK
- Heparin Protocol Instruction
Routine, Until discontinued
- Heparin INITIAL bolus and
- Heparin SUBSEQUENT bolus
1,000-10,000 Units, Intraveno
(40 units/kg) @HEPARIN80H

PE Treatment Recommendation

Priority: Routine

Frequency: Once

Starting: 2/20/2017 Today Tomorrow At: 1055

First Occurrence: Today 1055

Scheduled Times: Hide Schedule
2/20/17 1055

Is hypotension present (SBP less than 90mmg for over 15 minutes)?
Yes No

Is the PE confined to subsegmental pulmonary arteries?
Yes No

Candidate for anticoagulation (absence of recent bleeding, severe renal/liver disease, or thrombocytopenia < 50K)?
No Yes

Does the patient have cancer or are they pregnant?
Yes - cancer Yes - pregnant Patient does not have cancer and is not pregnant

Are any of the following present? (Check all that apply)
Pulmonary edema Right ventricular failure Hypotension Acute tachyarrhythmia Respiratory failure None present

Is the patient clinically stable and compliant?
Yes No

Treatment Recommendation: Home treatment or early discharge (2b). Consider communication with pulmonology. Consider CM/SW consult.

Treatment Recommendation: DOAC preferred over warfarin and LMWH (2b). Treat for 3 months if provoked or unprovoked w/high bleed risk. Treat indefinit ...

Cascading Questions Example

The treatment algorithm and accompanying tables can also be found under the Clinical Reference Toolbar - SLC Resources

Hyperspace - HOSPITALIST IP SVCS - POC Environment - ATTENDING I.

Epic Patient Lookup In Basket Remind Me Orders for Hospital Personalize Clin Ref Epic Matters My Reports OR Schedule

- SLC References
- SLHS Library
- SLHS Policies and Procedures
- Standing Orders
- UpToDate
- VIS
- Visual DX
- CHEST Guidelines - Tables 1, 2
- HTN Algorithm
- Pacemaker and ICD Deactivation
- Table 15: Contraindications for Thrombolytic Therapy
- Treatment of Acute DVT Algorithm
- Treatment of Acute PE Algorithm
- Venous Access Physician Algorithm

March 2017

New Documents and Order Sets

New Order Sets

Geriatric Fracture Program Order Sets

- **Emergency Department Evaluation, Hip Fracture - EPIC 815**
- **Emergency Department Hip Fracture Admit Orders - EPIC 823**
- **Hip Fracture Patient Care Orders - EPIC 806**
- **Postoperative Hip Fracture Patient Care Orders - EPIC 824**
 - Developed by Adam Brundfeldt, MD, Emergency Medicine; Raoul Chung, MD, Hospitalist; Gary Go, MD, Orthopedic Surgery; and Jacob Miller, MD, Anesthesia
 - Approved by the Emergency Medicine, Medicine, and Surgery EPTs
 - Clinical content to support the new Geriatric Fracture Program pilot at Saint Luke's East Hospital.

Urgent Dabigatran Reversal with Idarucizumab (Praxbind) - EPIC 733

- Approved by the Cardiac EPT

Treatment of Acute PE (Inpatient and ED) - EPIC 721 & Treatment of Acute PE (Outpatient) - EPIC 769

- Approved by Radiology EPT

Peripheral Vascular Surgery Post-Op Orders (SLEH Only) - EPIC 600

- Approved by the Surgery EPT

Indwelling Pleural Catheter Drainage Order Set - EPIC 776

- Developed by Timothy Saettele, MD
- Approved by the Critical Care EPT

New Clinical Support Tool

Venous Access Evaluation - imbedded in the Adult Medical Initial Care Order Set - EPIC 139

- Developed from an algorithm created by Kenneth Cho, MD and Vascular Access Nurses
- Approved by the Radiology EPT
- Supported by the Medicine EPT and approved for use in the most widely used order sets
- Not required but helpful in determining the most appropriate type of venous access line recommendation
- **Please note: The line recommendation does not generate an order. The workflow to place a line remains the same**
- Click [here](#) to view the **Line Placement Clinical Reference**



March 2017

Saint Luke's Care Clinical Reference Library - Did you know?

The screenshot shows the Epic Hyperspace interface. A dropdown menu is open, listing various clinical references. The 'SLC References' option is highlighted, and a sub-menu is visible showing items like 'CHEST Guidelines - Tables 1, 2', 'HTN Algorithm', and 'Recommendations for Holding New Oral Anticoagulants (NOAC)'. The background shows a patient list table with columns for 'Service', 'Treatment Team', and 'Length of Stay (Days)', and a message stating 'This list has no patients.'

There are a number of references linked within Saint Luke's Care (SLC) order sets or other clinical documents. However, these evidence-based materials may also be accessed through the **Clinical Reference Library** by simply choosing **SLC References**.

Please note that recently a new document was added by the Cardiology EPT.

Click [here](#) to view the **Recommendations for Holding New Oral Anticoagulants (NOAC) Prior to Invasive Procedures**

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.