



Formulary Flash



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Anticoagulation Safety Initiatives

Background

- In June 2007, the Joint Commission (JC) approved the 2008 National Patient Safety Goals (NPSGs). NPSG.03.05.01 (formerly Goal 3E) was one of two additions to the current standards. **This new goal aims to reduce the likelihood of patient harm associated with anticoagulation therapy.**
- The JC allowed a one year phase-in period with defined check points for planning, developing and testing at three, six, and nine months with full implementation of the program required by January 1, 2009.

Highlights of New JC Requirements

- Evaluation of anticoagulation safety practices
- **Patient and staff education** on anticoagulation therapy
- Use of unit-dose packaging when available from the manufacturer – to avoid potential pre-packing errors
- **Approved protocols** for initiation and maintenance of individualized therapy
- **Baseline INRs** for all patients initiated on warfarin
- Dietary notification of all patients on warfarin
- Established food - drug interaction program
- Policies on **baseline and on-going laboratory monitoring** for heparin and the LMWHs
- Use of programmable infusion pumps for heparin infusions

Multi-Disciplinary Committee

To aid with this initiative, the **Anticoagulation Safety Committee (ASC)** was formed.

Members includes (updated 3/2018):

- Dr. Theodore Arevalo, Chair, Hospital Medicine
- Dr. Russell Higgins, Director of Clinical Laboratories
- Dr. Elizabeth Bowhay, Hematology
- Dr. Melissa Frei-Jones, Peds Hematology
- Anticoagulation Clinic Providers
- Pharmacy Service
- Nursing Service
- Dietary
- Department of Quality & Process Improvement

Anticoagulants to be Addressed

- The ASC decided to concentrate its efforts on the following anticoagulants:

<ul style="list-style-type: none"> ▪ Low Molecular Weight Heparins (LMWHs) ▪ Enoxaparin (Lovenox[®]) ▪ Dalteparin (Fragmin[®])
<ul style="list-style-type: none"> ▪ Fondaparinux (Arixtra[®])
<ul style="list-style-type: none"> ▪ Unfractionated Heparin (UFH) ▪ Infusions for Treatment
<ul style="list-style-type: none"> ▪ Direct Thrombin Inhibitors (DTIs) ▪ Argatroban
<ul style="list-style-type: none"> ▪ Warfarin ▪ Apixaban ▪ Rivaroxaban

LMWHs and Fondaparinux

- A separate enoxaparin **order set** has been created in Sunrise specifically for **treatment indications**. This is to assure proper syringe sizes are ordered. Syringe and dose are selected based on patient weight.
 - The physician may modify the dose if necessary
 - If patient's estimated **CrCl is < 30 mL/min**, the dosing frequency automatically defaults to once a day dosing
- Enoxaparin for **prophylaxis indications** in doses of 30 mg and 40 mg syringes are listed as separate Sunrise options.
- Previous **fondaparinux** restrictions to hematology have been lifted and approved **guidelines are on the Clinical Intranet**.
- A **dosing and monitoring table** for **LMWHs and fondaparinux** will be posted on the Clinical Intranet.

Argatroban

- A **mandatory HIT pre-test probability assessment** has been implemented in Sunrise.
- **Dosing and monitoring guidelines** developed to reflect UHS specific target aPTTs and are posted on the Clinical Pathways and Guidelines page.

Heparin Infusions

- **Weight-based infusion protocols** have been developed. Order sets have been created in Sunrise to reflect the weight-based dosing adjustments and recommended lab monitoring.

Warfarin

- **A unit-dose dispensing** policy requires that warfarin be dosed in commercially available tablet strengths (1 mg, 2 mg, 2.5 mg, 3 mg, 4 mg, 5 mg, 6 mg, 7.5 mg, and 10 mg).
- **An order set** has been created in Sunrise to aid in complying with the unit dose dispensing policy and appropriate laboratory monitoring.
- Patients on warfarin receive a specific diet order which includes **“Patient on Coumadin” notification.**

Other Initiatives

- An Anticoagulation **Education Teaching Note** has been created in Sunrise to document patient discharge counseling.
- **Sunrise reports** identify patients receiving anticoagulation therapy and an Access database is used to aid in a pharmacy directed Anticoagulation stewardship monitoring program.

Reference

- Joint Commission on Accreditation of Healthcare Organizations. 2009 National Patient Safety Goals Manual Chapter.
<http://www.jointcommission.org/PatientSafety/NationalPatientSafetyGoals>

Examples of Reference on UHS Clinical Pathways / Guidelines Page (Anticoagulation)
(this list is not all inclusive)

Posted Resources	
Link Title	Description
Anticoagulation Therapy Guidelines	For in and out patient use Guidance on anticoagulation indications, initiation, lab follow up, dosing nomograms, management of elevated INR, perioperative bridging, drug and food interactions, duration of therapy as well as stroke and bleed risk assessments.
HIT Formulary Flashes	2004 - Increase awareness 2006 - Diagnosis and treatment
aPTT, Heparin, HIT Memo	Memo from Dr. John Olson, UHS Lab Director, regarding UHS aPTT targets, heparin, HIT and the DTIs
<u>DVT Prophylaxis Guideline</u>	DVT risk stratification, prophylaxis dosing and monitoring recommendations
Anticoagulation Lecture	Dr. Ted Arevalo (10/2015) Topics: oral anticoagulants indication, duration, initiation, interactions, monitoring
Anticoagulation Contract	Outpatient Anticoagulation Clinic
Anticoagulation Clinic Policies and Procedures	Outpatient Anticoagulation Clinic
Argatroban Guidelines	Argatroban Dosing and Monitoring aPTT target are UHS specific Transitioning to Warfarin
Fondaparinux, Apixaban and Rivaroxaban Guidelines	Indications Dosing and Monitoring
Warfarin Unit Dose Dispensing Policy	Warfarin must be ordered in available tablet strengths
Vitamin K Content Handout	Created by Dietary Distributed during discharge counseling
LMWH and Fondaparinux VTE Treatment Table	Dosing and Monitoring
Heparin Protocols	Dosing and Monitoring

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