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# Beaumont

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## Monitoring Anticoagulation Therapy-RO

Document Type: Procedure

### I. PURPOSE AND OBJECTIVE:

This document identifies how anticoagulation therapy is monitored and which test is to be used.

### II. ACRONYMS:

- A. Prothrombin Time (PT)
- B. Activated Partial Thromboplastin Time (aPTT)
- C. International Normalized Ratio (INR)
- D. Point of Care (POC)
- E. Collage of American Pathologist (CAP)
- F. Activated Clotting Time-Low Range (ACT-LR)
- G. Low Molecular Weight Heparin (LMWH)
- H. Direct thrombin inhibitors (DTIs)
- I. International Sensitivity Index (ISI)

### III. PROCEDURE:

#### A. Monitoring Heparin Therapy:

1. At Beaumont Hospitals heparin therapy is monitored in the central laboratory by using the aPTT test. The therapeutic target range for heparin is present on the result field with each patient's result. Therapeutic target ranges for heparin are determined with each new lot of aPTT reagent. Evaluation of the unfractionated heparin sensitivity of the new aPTT reagent is determined by the CAP cumulative summation method (developed by the CAP Coagulation Resource Committee). Forty or more patient specimens are used to compare the current lot of aPTT reagent to the new lot of aPTT reagent.
2. POC testing, using the ACT-LR cartridge, also monitors heparin therapy in limited patient care areas. Administration of POC testing is under Ancillary Services within the Clinical Pathology Department. Refer to Hemochron ACT procedure for areas of operation and therapeutic ranges.

3. Pharmacy Dosing Services provides consultative services and dosage guidelines for anticoagulant management. Refer to [Pharmacy Dosing Services](#).
4. LMWH is not generally monitored. LMWH Anti-Xa and Heparin Anti-Xa assays are available for spot-checking LMWH and heparin levels, respectively. Therapeutic target ranges are indicated with the test results.

**B. Monitoring Coumadin Therapy:**

At Beaumont Health, coumadin therapy is monitored in the central laboratory and the stat lab using the PT-INR with a highly sensitive reagent (RecombiPlastin 2G ISI ~ 1.0). The therapeutic target range for coumadin therapy is present on the result field with each patient's result. The targets utilized are those published by the American College of Chest Physicians. Coumadin management is also provided by Pharmacy Dosing Services.

1. Refer to [Pharmacy Dosing Services](#).
2. Point of Care INR is available at select off sites. Therapeutic target ranges are identical to those reported in the central lab and also appear on the result field along with the patient's result.

**C. Monitoring Direct Thrombin Inhibitors:**

At Beaumont Health, argatroban is monitored in the central laboratory and the stat lab using the aPTT. In patients with an abnormal baseline aPTT, an argatroban level can be obtained using the dilute thrombin time method for DTIs. Dabigatran does not require routine anticoagulation monitoring, however in some situations, a dabigatran level may be beneficial. As with argatroban, a dabigatran level can be obtained using the dilute thrombin time method for DTIs. Note that the routine thrombin time is extremely sensitive to DTIs, and therefore cannot be used for monitoring, but can be used to rule out the presence of DTIs if negative. For dosing guidelines for Argatroban refer to [Pharmacy Dosing Services](#).

## IV. REFERENCES:

- A. [Hemochron Activated Clotting Time \(ACT\)](#)

### Attachments

No Attachments

### Approval Signatures

Step Description	Approver	Date
CP Chief Medical Director	Peter Millward: Chief, Pathology Service Line	4/28/2021
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