

**Proactive Prophylaxis: Multidisciplinary Prevention of Pulmonary Embolism and  
Deep Vein Thrombosis  
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**How to Run an Anticoagulation Service  
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BWH Anticoagulation Service**

**1. Introduction**

- a.) The goal of anticoagulation management is to maximize efficacy without exposing the patient to unnecessary hemorrhagic risk. Oral anticoagulation with warfarin is difficult to regulate because of its narrow therapeutic index. There is compelling evidence that better patient outcomes are achieved when anticoagulation is managed by a centralized anticoagulation service rather than undertaken under usual medical care.

**2. Characteristics of an Anticoagulation Service**

- a.) Staffing:
  1. 1 FTE per 300 patients
  2. Administrative Assistant
  3. Under direction of Medical Director
- b.) Daily responsibilities
  1. Daily operations entail obtaining and interpreting International Normalized Ratio results for outpatients, communicating with nurses and physicians, and continuous monitoring of bleeding or clotting complications.
  2. Inpatient responsibilities include warfarin and low-molecular weight heparin education for deep vein thrombosis and post-operative patients.
  3. Daily Cardiac Surgery rounds
  4. Daily Orthopedic Surgery inpatient and outpatient anticoagulation management.
  5. Provide education to nursing and House Staff.
- c.) Referral Process
  1. Intake form – what information is needed
  2. Who can refer patients
  3. What are the responsibilities of the Anticoagulation Service
    - a. Confirm indication for anticoagulation
    - b. Confirm target INR and duration of therapy
    - c. Provide education to patient and family
    - d. Schedule testing of INR – date and location of testing
- d.) Quality Assurance
  1. Electronic monitoring specific for anticoagulation management

- a. Patient Demographics
- b. Documentation – lab and office visits, follow-up procedures, drug-drug interaction, LMWH, patient adherence and adverse events.
- 2. Computerized prospective quality assurance tracking system – document adverse hemorrhagic and embolic events
  - a. Bleeding/clotting complications
  - b. INR > 6.0 or INR < 1.5
  - c. # of new and discharged patients per month
  - d. adverse events should trigger critical review as part of continuous quality improvement.
- e.) MD and Anticoagulation Service Communication – when does the Service contact the patient’s anticoagulation physician of record?
  - 1. INR > 6.0
  - 2. Persistently low INRs
  - 3. Bleeding/Clotting complication
  - 4. Interruption of anticoagulation for invasive procedure.

### **3. Anticoagulation Service Outpatient Clinic**

- a.) Opportunity for face to face meeting
- b.) “Bridging” instructions
- c.) LMWH teaching
- d.) Home machine information and integration
- e.) POC testing

### **4. Conclusions**

Reference:

Grasso-Correnti, N, Goldszer, R, Goldhaber, SZ. The Critical Pathways of an Anticoagulation Service. *Critical Pathways in Cardiology* 2003; 2: 41-43.