

**COLLABORATIVE PRACTICE AGREEMENT:
ANTICOAGULATION SERVICE AMBULATORY CARE GUIDELINE
UConn Health Anticoagulation Clinic**

I. PURPOSE:

To provide all UConn Health patients with optimal dosing and monitoring of anticoagulation therapy in order to prevent new or recurrent thromboembolic events and to avoid adverse drug events in a cost-effective manner.

II. GOALS:

- Maintain a systematic, coordinated process to monitor anticoagulation therapy using the best practice model in order to achieve the best possible outcomes for these patients
- Provide consultative services to providers regarding anticoagulation therapy
- Provide bridging guidance for patients requiring periprocedural anticoagulation management
- Maintain International Normalized Ratios (INRs), for patients on warfarin, in the therapeutic range as consistently as possible, with the INR range specified by the patient's disease state in accordance with national guidelines
- Provide a cost-effective service to patients and UConn Health providers, to allow providers increased availability of clinic time for direct patient care
- To improve patient/caregiver understanding and compliance related to anticoagulation therapies by providing continuous patient/caregiver education about their prescribed anticoagulation medication(s) and associated disease state
- To improve continuity of care for patients on anticoagulation therapy
To ensure proper prescribing and monitoring of laboratory parameters specific to the anticoagulation therapy

III. COLLABORATIVE PRACTICE AGREEMENT:

Under this collaborative practice agreement, UConn Health Anticoagulation Specialist(s), according to and in compliance with section 91 of Public Act 10-117 and Connecticut General Statutes sec 20-631 "Collaborative Drug Therapy Management", may design, implement, and monitor a therapeutic drug plan intended to manage anticoagulation therapies. Anticoagulation Specialists may sign patient summaries for assisted living facilities as well as orders for visiting nurses. Services offered by the Anticoagulation Specialist may include education on disease state and lifestyle modification, in addition to the drug therapy services listed above. Written educational materials and patient specific information may be provided to improve quality of care.

The Anticoagulation Specialist(s) may initiate, discontinue, or adjust anticoagulation therapies in accordance with current treatment guidelines, may order laboratory tests appropriate to the disease or drug therapy. Education at office visits shall include appropriate counseling on all new medications. The results of all lab tests ordered under the protocol shall be reviewed and managed by the Anticoagulation Specialist(s) to assess efficacy of treatment and necessity for medication and/or therapeutic lifestyle change. Lab results will be relayed to clinic patients by a patient-specific predetermined method which may include face-to-face encounter, written communication, secure electronic, or telephone communication. Any lab outliers that require further investigation will be sent to the referring physician and/or PCP as appropriate and the patient will be told to contact that LIP immediately. If the LIP is not available, the patient will be sent to the UConn Health Emergency Department.

A patient whose drug therapy is managed under this agreement must have established care with a provider within UConn Health and all aspects of the patient's anticoagulation medication management will be followed in collaboration with the patient's referring provider (or primary care as necessary). In addition, the patient must be seen by their UConn Health provider at least once per year, in addition to which cases may be reviewed with clinic medical directors as needed. All issues outside of the scope of anticoagulation medication management shall be referred to the patient's primary care provider, daily supervising LIP or medical director(s).

The Anticoagulation Specialist(s) will assure documentation of allergies and adverse drug reactions prior to initiation of the anticoagulation service and, in the course of the above mentioned therapy, shall document all activities appropriately in the medical record.

The collaborating physician will review the patient's drug therapy management at least every thirty days.

Approved by Dr. Heiko Schmitt, Anticoagulation Clinic Medical Director and UConn Health Pharmacy & Therapeutics Committee on MM/DD/YYYY. Referral to this service constitutes agreement by the referring provider with this collaborative practice agreement and satisfies all state legal requirements of a pharmacist collaborative practice agreement. Under Connecticut State Law and CMS requirement. The collaborative practice agreement and referral must be renewed yearly by each referring LIP by signing a new agreement.

PCP/Referring LIP: _____ Signature _____ Date: _____
(Print Name)

This Collaborative Practice Agreement was enacted for: _____
(Patient)

_____ On _____
(Medical Record Number) (Date)

A copy of the entire collaborative practice agreement is available on the University of Connecticut Health Center Anticoagulation Service website: <http://pharmacy.uhc.edu/services/anticoagulation/index.html>. Location and contact information for the anticoagulation services and staff can also be located there.

IV. IMPLEMENTATION:

A. Referrals

General Guidelines

1. Patients may be referred by their UConn Health provider to the UConn Health Anticoagulation Service at any stage of therapy.
2. All patients must have an electronically completed Anticoagulation Service Referral for review before they are accepted into the Anticoagulation Service. This will generate an active Anticoagulation Episode for the patient.
3. The Anticoagulation Specialist will send the Collaborative Practice Agreement Signature Page for co-signature by the referring physician in the electronic health record.
4. The referring provider must contact the Anticoagulation Service at 860-679-3470 to confirm receipt of the forms.
5. If a patient is deemed inappropriate for management by the Anticoagulation Service, the referring provider will be contacted by the Anticoagulation Specialist within 48 hours of receipt of all necessary forms.
6. Anticoagulation care by the service commences once an active anticoagulation episode exists for the patient, the referral and collaborative practice agreement forms have been received and accepted by the Anticoagulation Specialist (72 hours after receipt of the referral). The referring physician will provide the following information on or accompanying the standard patient referral form:
 - a. Anticoagulation medication prescribed
 - b. Indication for anticoagulation
 - c. Expected duration of therapy
 - d. Desired therapeutic INR range
 - e. Type of artificial heart valve if applicable
7. Patients whose anticoagulation episode has been resolved will not be followed by the clinic until the patient is re-referred to the clinic.
8. Every year for renewal purposes, the Anticoagulation Specialist will send the anticoagulation episode summary and collaborative practice agreement to the referring physician for co-signature with the attestation "I, (referring physician) have reviewed/updated the current anticoagulation episode for this patient. Indicating diagnosis for anticoagulation, ICD 10 Code, duration of therapy & INR range (as applicable) are correct and current. I have read and agree with the terms of the collaborative practice agreement. I would like to continue patient's anticoagulation for one year".
9. The physician will notify the Anticoagulation Specialist of any changes in the patient's medication regimen.
10. When a patient no longer requires anticoagulation therapy:
 - a. The physician will advise the Anticoagulation Specialist that the patient be discharged from the Anticoagulation Service in writing with the inclusion of an effective date.
 - b. The Anticoagulation Specialist will:
 - Contact the referring physician or primary care physician (PCP) when the patient has reached their proposed end date of therapy or when patient is eligible for discharge due to non-compliance.

Referral of Patients Discharged to Rehabilitation/Skilled Nursing/Long-Term Care Facilities

1. Patients who reside either temporarily or permanently in a skilled nursing or long-term care facility will not be managed by the UConn Health Anticoagulation Service.
2. UConn Health patients should be referred to the Anticoagulation Service prior to transfer to a rehabilitation/skilled nursing/long-term care facility after discharge from UConn Health John Dempsey Hospital.
3. Physician orders should be written for the rehabilitation facility to contact the UConn Health Anticoagulation Specialist when the patient is being discharged from the rehab facility to home, to assist in continuity of care.
4. The Anticoagulation Specialist will contact the facility weekly to determine whether the patient is still in the facility or has been sent home. If the patient has been sent home, the Specialist will contact the patient at home to establish anticoagulation monitoring, if still necessary.

B. Eligibility Criteria:

1. Patients may be **Accepted** into the Anticoagulation Service if they meet the following criteria:
 - a. Sign the Anticoagulation Service Patient Agreement and are willing to follow the service's therapeutic plan
 - b. Have transportation to the facility
 - c. On an exception basis, patients who are able to have their INR drawn outside the facility (home health care (HHC), etc.) when applicable and are accessible by telephone may be accepted to the clinic as per the Director of Pharmacy and the Medical Director of the Anticoagulation clinic
 - d. Have a therapeutic plan (e.g. target INR or other specified anticoagulation monitoring parameters) that has been communicated and agreed upon between the referring provider and the Anticoagulation Service

2. Patients may be **Denied** admission into the Anticoagulation Service for the following reasons (NOTE: These cases may be referred to the medical director for review as necessary):
- a. Inappropriate reason for anticoagulation medications.
 - b. Therapeutic goals which are not consistent with best clinical practices
 - c. Lack of ability for appropriate follow-up
 - d. Inability of the Anticoagulation Service to manage additional patients due to time, space, or personnel limitations
 - e. Patients who reside at rehab/skilled nursing/Long Term Care facilities
 - f. No UConn Health provider
 - g. Refusal to sign the Anticoagulation Service Patient Agreement
 - h. Refusal to follow clinic plan
 - i. Medical contraindication (risks of anticoagulation therapy outweigh the benefits).
Anticoagulation therapy is contraindicated in any localized or general physical condition or personal circumstance in which the hazard of hemorrhage might be greater than the potential clinical benefits, such as:
 - Patients with hypersensitivity to the prescribed anticoagulation medication or any component of the formulation.
 - Patients with hemorrhagic tendencies (eg, patients bleeding from the GI, respiratory or GU tract) unless approved by referring physician.
 - Patients with aneurysm, cerebrovascular hemorrhage
 - Patients who have recently undergone spinal puncture or other diagnostic or therapeutic procedures with potential for significant bleeding.
 - Patients with history of bleeding diathesis
 - Patients with recent or potential surgery of the eye or CNS
 - Patients with recent major regional lumbar block anesthesia or surgery resulting in large, open surfaces.
 - Patients with blood dyscrasias
 - Patients with severe uncontrolled or malignant hypertension
 - Patients with pericarditis or pericardial effusion, subacute bacterial endocarditis
 - Patients with history of warfarin-induced necrosis
 - Unreliable, noncompliant patients
 - Unsupervised senile or psychotic patient
 - Patients with eclampsia/pre-eclampsia
 - Threatened abortion
 - Patients who are pregnant
 - Patients with active alcohol or drug abuse
 - Increased falling risk (occupational, medical, etc.)

C. Telemanagement

1. Patients referred to the UConn Health Anticoagulation Service who are unable to come into the UConn Health Anticoagulation Clinic for monitoring will be considered telemanaged or "home care" patients. These patients include those with at home INR anticoagulation monitoring Point Of Care self-testing devices, patients unable to come to the Anticoagulation Clinic due to physical limitations, transportation issues, dialysis or other chronic illness. This designation includes patient's currently receiving Home Health Care (HHC) or Hospice Services but is not exclusive to this population.
2. All telemanaged patients will receive the same level of care, including safety and efficiency, as patients who physically come to the clinic.
3. Telemanaged patients will be requested to attend clinic for orientation and education at or near the time of initial referral and then periodically thereafter, as determined by Anticoagulation Specialist. Patients who cannot come to clinic will be oriented and educated via the telephone or via a home care nurse, if applicable.
4. Every effort will be made to contact the patient directly through an agreed upon format of communication. Telemanaged patients will be required to be available by telephone or to grant permission for the Anticoagulation Specialist to leave instructions on voicemail, an answering machine, email, web-based format, or with another designated person. All patients will be instructed to contact the Clinic within 2 business days of their blood test (eg. INR or other specified anticoagulation monitoring parameters) if they do not receive instructions.
5. If a telemanaged patient is repeatedly unavailable or unresponsive to above mentioned venues of agreed upon communication, then the patient may be eligible for discharge by the Clinic due to non-compliance with protocol.
6. Telemanaged patients must come to the Anticoagulation Clinic at least quarterly or four times a year. These may be scheduled to coincide with medical visits at UConn Health.
7. Patients whose INR is being tested by a POC device including those with at home INR anticoagulation monitoring POC self-testing devices will get confirmatory venous INR for any INR>4.
8. Patient's eligibility for receiving at home POC INR self-testing devices will be determined by the referring physician.
9. If a patient with an at home INR anticoagulation monitoring POC self-testing device is determined to be unreliable or dishonest by the Anticoagulation Specialist, their physician will be contacted and discharge from the Anticoagulation Service may be considered.
10. Patients who live or travel outside of Connecticut may be managed by the UCHC Anticoagulation Service temporarily for a period of 3 months until more local care can be established.
11. Patients with extended stay (>3months) in another state will need to be managed locally.

D. Responsibilities

1. The Anticoagulation Patient will:
 - a. Follow Anticoagulation Service instructions regarding anticoagulation dosing and monitoring.
 - b. Contact the Anticoagulation Service with any alteration to the dosing and monitoring plan.
 - c. Notify the Anticoagulation Service with any changes to medications (including over the counter (OTC) or herbal products), diet, or medical conditions.
 - d. Notify the Anticoagulation Specialist with any planned medical testing or intervention so temporary cessation of their anticoagulation therapy can be considered.
 - e. Have an Anticoagulation Clinic visit and Anticoagulation assessment with UConn Health referring provider or UConn Health PCP at least annually.
 - f. Schedule visits at the Anticoagulation Clinic at least quarterly or four times a year.

2. The Anticoagulation Technician or Support Staff will:
 - a. Arrive, schedule, re-schedule patients in Epic.
 - b. Assist with coordinating patient care with home health agencies, skilled nursing facilities, and laboratories.
 - c. Examine patient compliance with PT/INR monitoring, or other specified anticoagulation monitoring parameters, by generating reports of patients overdue for required blood work and contacting these patients in a timely manner by phone and/or letter.
 - d. Assist the Anticoagulation Specialist in notifying patients of INR results (or laboratory parameter specific to the anticoagulation therapy) in person or via phone calls.
 - e. Manage the clinic correspondence with patients and providers.
 - f. Document any contact or attempted contact with the patient or any agent thereof except for upcoming appointment reminder calls.
 - g. Contact/attempt to contact and follow-up with patients who do not attend scheduled clinic visits, as per clinic guidelines.
 - h. Obtain or update patient and pharmacy phone number, if necessary.

Note: In the absence of Anticoagulation technicians or support staff, the Anticoagulation Specialist will assume the above responsibilities.

3. The Anticoagulation Specialist will:
 - a. Follow all aspects of the patient's anticoagulation therapies in collaboration with the patient's referring physician and as necessary the patient's primary care provider or the service medical director.
 - b. Initiate, adjust, or renew orders appropriate for the patient's anticoagulation therapies, which include anticoagulation medications, vitamin K, PT/INR, CBC, urinalysis, basic metabolic panel (BMP), SCr, LFTs, Hgb, Hct, and other related laboratory tests, per established guidelines.
 - c. Initiate or renew PT/INR and other lab orders for clinic patients using the appropriate anticoagulation diagnosis and obtain referring physician co-signature.
 - d. Assist with anticoagulation medication selection or transition of therapy.
 - e. Continue to monitor the patient's anticoagulant therapy until the patient's physician discontinues anticoagulant therapy or until the patient is discharged from the clinic by other means.
 - f. Assess the status of the particular medical problem necessitating anticoagulation therapy.
 - g. Perform thromboembolic and hemorrhagic risk assessments (refer to [attachments](#))

- [6a/6b](#)) and document in an electronic database.
- h. Assess patient understanding of disease and treatment and willingness to comply with treatment and clinic visits.
 - i. Educate the patient (using verbal and/or written communication) on the safe and appropriate use of anticoagulation medication.
 - j. Address each patient's PT/INR (or other anticoagulation related laboratory result), assess the efficacy of treatment, and determine if therapeutic goals have been achieved. Specifically:
 - Identify patient-related variables that affect therapy and evaluate the stability of each individual result.
 - Make appropriate changes to anticoagulation therapy when the therapeutic goals of treatment are not being met.
 - Dosing adjustments may deviate from the given guidelines based on referring LIPs or PCP clinical experience and patient's individual case factors. However, these patients will not be treated under the protocols listed here, but rather each such referral will be accompanied by an individualized patient specific protocol for all therapies that would require INRs outside of the ranges of 2-3, or 2.5-3.5.
 - Educate the patient/caregiver on therapeutic results, any dose changes, and any anticoagulation issues as determined per Anticoagulation Specialist.
 - Assign a date for follow-up monitoring (if applicable).
 - k. Obtain relevant patient factors and baseline laboratory values for all patients initiated on anticoagulation therapy (ex. Height, weight, allergies, CBC, LFTs, SCr, Hgb, Hct).
 - l. When applicable, Follow patient's whose INR is unstable (not yet at steady state) at least once to twice weekly as needed.
 - m. Increase the monitoring interval at one-week increments, as the INR becomes more stable.
 - n. Follow patients who have a stable INR every 4-12 weeks (see Frequency of Monitoring Anticoagulant Therapy-[Attachment 5](#)).
 - o. Refer to the Warfarin Dosing Strategy ([Attachment 2a](#)), Transition Between Anticoagulants ([Attachment 2b](#)), Warfarin Dosing Nomogram for Maintenance Therapy ([Attachments 3](#)) and Frequency of Monitoring Anticoagulant Therapy ([Attachment 5](#)) for dosing and monitoring recommendations. Refer to the Guidelines for Excessively Prolonged INR ([Attachment 4](#)) and seek physician consultation for INRs greatly out of range or bleeding while on direct oral anticoagulants as outlined in the section on physician consultation. Assess all drug-related problems and communicate findings to referring physician or primary care as outlined in section on physician consultation. Refer to the Injectable Anticoagulant Dosing Guideline ([Attachment 7a](#)) for dosing of injectable anticoagulants.
 - p. Manage any clinically significant drug interactions and contact the physician as needed.
 - q. Educate the patient (using verbal and/or written communication) on the safe and appropriate use of anticoagulation medication.
 - r. Monitor the following items as needed based on clinical judgment:
 - I. Chart review
 - II. Care coordination
 - III. Medication review
 - IV. Drug-drug interaction monitoring
 - V. Adherence assessment
 - VI. Transition of care management
 - VII. Laboratory monitoring for conditions that may impact renal or hepatic function (ex. Height, weight, allergies, LFTs, SCr, Hgb, Hct)
 - s. Document all activities performed appropriately in the medical record.

E. Assessment of Therapy

1. Compliance (missed/extra anticoagulation doses, correct dose, correct tablet strength/color, correct dosing schedule)
2. Drug access determination and/or resolution
3. Diet changes (Vitamin K-containing foods, overall oral intake)
4. Disease or general health changes (acute infection, GI illness, exercise/activity level, etc.)
5. Drug-drug interaction review
6. Review and assess pertinent laboratory values (or attain if not yet obtained)
7. Social habit changes – alcohol, tobacco, illicit drugs
8. Lab error
9. Signs/Symptoms of bleeding
10. Signs/Symptoms of thrombosis (ie, color change, pain, swelling, warmth of area)
11. Refer to the Warfarin Dosing Strategy ([Attachment 2a](#)), Transition Between Anticoagulants ([Attachment 2b](#)), Warfarin Dosing Nomogram for Maintenance Therapy ([Attachment 3](#)) and Guidelines for Excessively Prolonged INR ([Attachment 4](#)) for guidance in making dose adjustments. Refer to the Injectable Anticoagulant Dosing Guideline ([Attachment 7a](#)) for dosing of injectable anticoagulants.

F. Education Session

1. An adequate patient education session is an essential process for ensuring safe and effective use of anticoagulation therapy. Each patient education session and the patient's comprehension of the education session will be documented in the patient's medical record. Patients will be offered and scheduled for at least one 60-minute anticoagulation education visit to occur at the earliest opportunity. Verbal, written, and audio-visual patient information materials will be individualized and available for each patient. The education process will begin with a formal session involving the patient and any care takers or family members that wish to participate. The process of patient education will be continuous and reinforced at every patient encounter. The education will focus on the risk and benefits of anticoagulation therapy, agent adherence, adverse events, when to contact the clinic or referring physician, thromboembolic disorders, and safe medication practices. Information regarding the clinic's design, working hours, and procedures will also be discussed.
2. Patients bridged with Lovenox will be offered and scheduled for a 60-minute Lovenox Education session to occur prior to commencement of the bridging plan. The format of the Lovenox education will mimic the anticoagulation education.
3. Patients may elect to refuse the educational session as well as repeat it at any time during their care. Refusal will require the patient to fill out the Anticoagulation Education Waiver Form HCH2430 to be documented in the patient's medical record

4. Topics introduced during the educational session are, but are not limited to the following:
 - a. Name, strength, dose, and description of medication
 - b. Administration times and method of administration
 - c. Indication and mechanism of action of medication
 - d. Expected length of therapy
 - e. Side effects
 - f. What to do in the event of a missed dose
 - g. Understanding of disease state
 - h. Potential for change in dose
 - i. Avoidance of excessive alcohol
 - j. Importance of keeping this medication safely away from children/storage
 - k. Importance of MedicAlert bracelets
 - l. Potential drug-drug and drug-food interactions
 - m. Signs and symptoms of bleeding and thrombosis
 - n. Procedure if bleeding/thrombosis occur
 - o. Travel/Physical activity
 - p. Risk of pregnancy
 - q. Importance of laboratory monitoring of therapy
 - r. Importance of compliance with treatment regimen (including medication dose and schedule) and follow-up visits
 - s. Use of medication containers and compliance aids
 - t. Importance of notifying Anticoagulation clinic care providers when changes occur to medication regimen, diet, or health status
 - u. Importance of notifying Anticoagulation clinic care providers about planned medical and dental procedures
 - v. Bridging if applicable

G. Documentation

Documentation of all of the following information will be entered into an electronic patient profile for all active patients. Documentation will include:

1. Diagnosed reason for anticoagulation
2. Other medical conditions
3. Contact information
4. Current anticoagulation medication name and tablet strength
5. Therapeutic INR range
6. Expected duration of anticoagulant treatment
7. Referring physician
8. Daily supervising LIP
9. Pharmacy Information
10. Caring Individual's contact information
11. PT/INR results
12. Current anticoagulation medication dosage regimen
13. Education topics covered
 - a. Whether the encounter was by telephone or in person
 - b. Relevant clinical information obtained from the patient interview:
 - Signs and/or symptoms of bleeding
 - Signs and/or symptoms of thrombosis
 - Changes in medications including over the counter medications and/or adverse effects of the medications
 - Changes in dietary or alcohol habits

- Changes in underlying disease states
- Missed doses since last appointment
- Current anticoagulation medication dosing regimen
- Compliance issues related to current medications

14. Instructions given to the patient

15. Date of follow-up appointment (entered and scheduled in Epic)

16. Date and Signature of Anticoagulation Specialist providing service

H. Billing

1. Patients will be billed for an office visit in hospital based clinic using billing code G0463 for the encounter if any of the following take place:
 - a. The patient was interviewed and assessed in the clinic by an Anticoagulation Specialist
 - b. A point of care INR test was performed
 - c. Recommendations were given to pt/caregiver based on pertinent patient factors or relevant laboratory parameters specific to the anticoagulation therapy
 - d. Education was given
2. At each face to face patient visit, the Anticoagulation Specialist will select the appropriate CPT code in the electronic health record for billing purposes

I. Prescriptions

Prescriptions for anticoagulant drugs for clinic patients will originate from the referring/collaborating physician. Anticoagulation prescriptions should only be electronically sent, fax'd or written and given to patients. Prescriptions may be filled out by Anticoagulation Specialists, but must be signed by a licensed prescriber before transmitted to a pharmacy.

J. Physician Consultation

Laboratory values (e.g. INRs) greatly out of range may require physician consultation. The Anticoagulation Specialist will:

1. Notify the Anticoagulation Service medical director, daily supervising LIP, referring physician or PCP if the patient has an **INR > 5.0 and ≤ 8**, an INR of <1.5 in a patient with INR range 2.0-3.0, an INR of <2 in a patient with INR range 2.5-3.5, an active bleeding episode, inability of the Anticoagulation Service to maintain the patient in the recommended INR range, an acute medical condition not covered by the clinic's daily functions and protocols or patients who consistently miss appointments or remain non-compliant with warfarin therapy.
2. Actively consult and discuss with the Anticoagulation Service medical director, daily supervising LIP, referring physician or PCP on treatment options for all INRs > 8.0.
3. Refer patients with emergent medical issues to call 911 or go to the nearest emergency room.
4. Communicate information about all drug-related problems and findings to the primary care or referring provider such that the patient receives appropriate medical attention. If the PCP or the referring provider cannot be reached in a reasonable amount of time, the medical director, or daily supervising LIP of the Anticoagulation Service will be consulted or the patient will be sent to the nearest appropriate care facility. All adverse drug reactions (ADRs) or drug errors will be reported per the UConn Health protocol.

K. Discharge Guidelines

1. Purpose:

To keep the patient on anticoagulation therapy as safe as possible by avoiding serious adverse consequences due to poorly monitored therapy secondary to patient noncompliance.

2. Definitions:

- a. Discharge: The patient will no longer be able to receive care from the UConn Health Anticoagulation Service for monitoring of anticoagulation medications due to non-compliance. Patient's anticoagulation management will be transferred back to the referring provider.
- b. Respond: To have an INR, or laboratory parameters specific to the anticoagulation therapy drawn, communicate with, and receive instructions from the Anticoagulation Service regarding anticoagulation therapy.
- c. Non-compliance: Repeated missed appointments or lab draws, failure to communicate and/or return the clinic's phone calls, or failure to follow clinic instructions.

3. Process:

- a. If the patient misses an appointment or scheduled lab draw, he/she will be rescheduled as soon as possible (within 1-2 weeks of the missed appointment/lab draw, or as appropriate to the patient's monitoring schedule or clinical situation).
- b. If a patient misses an appointment/lab draw with the service, the patient will receive 3 phone calls on 3 separate days (within 10 business days) or until the patient is rescheduled, whichever comes first.
- c. An [Anticoagulation Clinic reminder letter](#) will be sent certified to the patient the following week if no appointment or lab draw is arranged with the Anticoagulation Service after the phone calls.
- d. If a patient has the appropriate laboratory parameters drawn but fails to communicate with the service to receive instructions, the discharge process continues.
- e. If, within 10 business days of mailing the [Anticoagulation Clinic reminder letter](#), the patient fails to contact the clinic, the patient will be sent a certified [Anticoagulation Clinic final reminder letter](#) stating that the patient will be discharged from the service back to the referring physician if they do not reschedule an appointment/lab draw or follow clinic recommendations.
- f. If the patient fails to respond within 10 business days of mailing the final reminder letter, an [Anticoagulation Clinic discharge patient letter](#) will be sent via certified mail informing the patient that he/she has been discharged from the anticoagulation service back to their referring physician. The referring physician will be sent an [Anticoagulation Clinic discharge to MD Letter](#) via HealthONE regarding the patient's change in status.
- g. It is the physician's responsibility to cancel refills for anticoagulant medications prescribed as appropriate for non-compliant patients.
- h. The patient will automatically be discharged from the Anticoagulation Service with a single letter of notification (discharge letter) sent to the patient if the patient receives a reminder letter, fails to respond AND has received a final reminder letter two times within the last year.
- i. If a patient is new to the service and has never established care with the service, an [Anticoagulation Clinic Initiation of care letter](#) will be sent to the patient if the following occur:
 - The clinic has been unable to reach the patient to schedule an appointment to enroll him/her in clinic after 3 phone calls, on 3 separate business days after receiving the referral.
 - The patient has missed 3 clinic appointments/lab draws and is more than 7 days

- overdue to have the PT/INR blood test.
- j. Upon enrollment in the Anticoagulation Service, patients will be notified that they need to establish and maintain ongoing care with a UConn Health provider within 30 days of enrollment in clinic. If the patient does not establish care with a UCHC provider within 30 days of clinic enrollment, he/she will be discharged IMMEDIATELY, with the mailing of a discharge letter.
 - k. A copy of each letter will be sent to the patient's referring physician or PCP and will be posted in the patient's electronic medical record (EMR).
 - l. Each phone call and letter will be documented in the patient's EMR.
 - m. If a patient misses a rescheduled appointment/lab draw, the discharge process will continue as if the patient had never rescheduled.
 - n. If a patient is violent, abusive, or exhibits outright failure to comply with the instructions of the Anticoagulation Service staff, the behavior will not be tolerated and will result in immediate discharge from the service.
 - o. Upon discharge from the clinic, the patient's anticoagulation episode will be resolved by the Anticoagulation Clinic staff and notification will be sent to the referring physician.

NOTE: *If a patient is discharged for any of the above reasons from the Anticoagulation Service at UConn Health, the patient will not be accepted back into the Service.*

L. Anticoagulation Specialist

Any pharmacist who is licensed in Connecticut and has completed the Anticoagulation Clinic Specialist Training program and passed the Anticoagulation Clinic Credentialing Test with a score of $\geq 70\%$ will be considered a qualified Anticoagulation Clinic Specialist.

1. Competency Requirement

- a. Participating pharmacists must be licensed in CT, and meet at least one of the following qualifications:
 - I. Bachelor of Science in pharmacy with ten years of clinical experience or a Pharm D. Degree
 - II. Certification by the Board of Pharmaceutical Specialties (BCPS)
 - III. Certification by the Commission for Certification in Geriatric Pharmacy (CGP)
 - IV. A credential in disease state management from the National Institute for Standards in Pharmacist Credentialing
 - V. Pharmacy residency accredited by the American Society of Health-System Pharmacists
 - VI. Completion of a disease state management certification program approved by the Accreditation Council for Pharmacy Education (ACPE)
- b. Competency of the participating pharmacists will be assessed yearly

2. Training

- a. The training will consist of a didactic portion and practical experience. For the didactic portion, all Anticoagulation Specialists must complete one of the following educational requirements:
 - Complete all of the learning objectives in the “Anticoagulation Clinic Specialist Training”
 - Complete available educational activities in the following areas:
 - Anticoagulation Monitoring
 - Extended Anticoagulation Prophylaxis post-hospitalization
 - New Oral Anticoagulants
 - Vitamin K Antagonist Pharmacology, Pharmacotherapy and Pharmacogenomics
 - Heparin/Low Molecular Weight Heparin and Fondaparinux Pharmacology and Pharmacotherapy
 - Direct Thrombin Inhibitor Pharmacology and Pharmacotherapy
 - Pharmacist Reimbursement for Anticoagulation Services
 - Risk Management in Anticoagulation
 - b. Training will be provided to the Anticoagulation Specialists on the appropriate use and maintenance of the point-of-care testing device.
 - c. All Anticoagulation Specialists must show proficiency by successfully passing the anticoagulation clinic credentialing and i-STAT competency tests with a score of $\geq 70\%$.
3. Pharmacy Technicians may finger-stick, interview and instruct patients under the pharmacist license providing:
 - a. They have been trained on the appropriate use and maintenance of the point-of-care testing device and have successfully passed the i-STAT competency test with a score of $\geq 70\%$.
 - b. Patient assessment and warfarin dosing is determined by the Anticoagulation Specialist prior to the instructions being given to the patient.

- c. All documentation done by the pharmacy technician must be reviewed and co-signed by an Anticoagulation Specialist.
4. Students may interview, assess and instruct patients providing:
 - a. They have passed the anticoagulation clinic credentialing test with a score of $\geq 70\%$.
 - b. Assessment and instructions are reviewed by an Anticoagulation Specialist prior to the instructions being given to the patient.
 - c. All documentation done by the student must be reviewed and co-signed by an Anticoagulation Specialist before the end of the working day.

M. Quality Assurance

1. Quality assurance will be carried out through quarterly reports tracking following statistics:
 - a. Percent of patients in therapeutic range at a given point in time.
 - b. Average time in therapeutic range.
2. Patient specific quality indicators will be identified through quarterly review of the following data:
 - a. Individual patients spending greater than 30% of time outside of the therapeutic range.
 - b. Individual patient's defined therapeutic range not consistent with published guidelines.
 - c. Patient's remaining on anticoagulation therapy after their end date has passed.
3. A random sample of patient records shall be reviewed by the Anticoagulation Clinic medical director twice yearly to ensure adherence by the Anticoagulation Specialist(s) to the UConn Health Anticoagulation clinic collaborative practice agreement.

N. Anticoagulant Medications

1. Initial Laboratory Monitoring

All patients initiating on any anticoagulants should have a current height, weight, and the following baseline labs:

- a. PT/INR (warfarin patients only)
- b. CBC with platelets
- c. Hepatic function panel
- d. Renal function
- e. Pregnancy test if female of child-bearing potential

2. Anticoagulation Dosage Adjustment

The Anticoagulation Specialist(s) will refer to the Warfarin Dosing Strategy ([Attachment 2a](#)), Transition Between Anticoagulants ([Attachment 2b](#)), Warfarin Dosing Nomogram for Maintenance Therapy ([Attachment 3](#)), Frequency of Monitoring Anticoagulation Therapy ([Attachment 5](#)) and Guidelines for Excessively Prolonged INR or Bleeding While on Anticoagulants ([Attachment 4](#)) for dosing and monitoring recommendations. The Anticoagulation Specialist(s) will refer to Injectable Anticoagulant Dosing Guideline ([Attachment 7a](#)) when dosing injectable anticoagulants.

O. Periprocedural Anticoagulation

Periprocedural anticoagulation is a controversial area with little prospective data and varied consensus opinion. This guideline is designed to emphasize several points in management decisions:

- There are low risk procedures that can be identified where no interruption of oral anticoagulant therapy is needed.
 - In those instances with a recent thromboembolic event (<2-4 weeks) and/or reversible factors, the surgery/procedure should be delayed if possible, as the recurrent TE risk will decrease over time with OAC therapy and reversal of risk factors.
 - For the majority of patients who fall in between these extreme groups, careful and individualized assessment of thromboembolic and bleeding risk with incorporation of the patient's referring physician and the proceduralist's involvement is required.
1. Determine the bleeding risk of the procedure and if interruption in anticoagulation therapy is necessary in order to safely perform the procedure without major bleeding complications ([Attachment 6b](#))
 - Minimal -bleeding risk procedures- warfarin may be safely continued without interruption as determined by proceduralist and referring physician:²⁶
 - Low to Moderate-bleeding risk procedures-warfarin may or may not need to be held as determined by proceduralist and referring physician.
 - High to Very High-bleeding risk procedures- warfarin should be discontinued (with the use of parenteral anticoagulant bridging therapy determined by individual patient's thromboembolic risk):
 2. Determine the patient's thromboembolic risk while off anticoagulation if the procedure is considered "high-bleeding risk" and/or the proceduralist desires INR ≤ 1.5 (Refer to Thromboembolic Risk Assessment-[Attachment 6a](#))
 3. Determine the duration of anticoagulation cessation by consulting the proceduralist and referring physician
 4. Obtain baseline labs necessary for LMWH therapy (see Injectable Anticoagulant Dosing Guideline [Attachment 7a](#)) if not drawn in the last 4 weeks. Check results prior to proceeding with therapy.
 5. Follow Perioperative Anticoagulation Management-Warfarin ([Attachment 6c](#)) and Anticoagulation timing with surgeries ([Attachment 6d](#)) to develop perioperative plan and submit to referring physician and proceduralist for approval.
 6. Educate patient/caregiver about the risks versus the benefits of the designated method of bridging or lack of bridging.
 7. Educate patient/caregiver on the proper technique for self-injection, dose of LMWH, potential complications, and the interventions they should take if a complication occurs. Assess his/her level of understanding of complications and ability to perform injections. Have patient/caregiver demonstrate technique if necessary.

8. Have referring provider order LMWH from the appropriate pharmacy and ensure medication is in-stock and available within the necessary time frame. Arrange for patient financial assistance programs if available and necessary.
9. Schedule patients with financial issues or difficulty with self-injection to receive LMWH in Adult Ambulatory Care Unit (AACU).
10. Provide written instructions to the patient/caregiver for bridging and set follow-up appointment(s).
11. Document therapeutic plan and patient consent for bridging therapy (as well as any refusal of therapy) in the patient's medical record.

Optimal Therapeutic Range and Duration of Anticoagulant Therapy

Indication	Target INR	Duration	Notes
Deep Vein Thrombosis (DVT)/ Pulmonary Embolism (PE)			
Provoked (Transient risk factors)	2.5 (2.0-3.0)	3 months and reassess	DOACs preferred over VKA therapy and VKA therapy preferred over LMWH
Unprovoked	2.5 (2.0-3.0)	3 months and reassess	If PE, proximal DVT and pt at low to moderate risk of bleeding, extended anticoagulation therapy preferred over 3 months. High bleeding risk 3 months of anticoagulant preferred over extended therapy. Reassess need for extended therapy annually
Cancer	2.5 (2.0-3.0)	Indefinite	Reassess annually, LMWH preferred
Upper Extremity DVT w/ unremoved central venous catheter	2.5 (2.0-3.0)	Indefinite	As long as the central venous catheter remains
APAS or 2 or more thrombophilic conditions	2.5 (2.0-3.0)	Indefinite	
Recurrent DVT/PE	2.5 (2.0-3.0)	Indefinite	Reassess annually. Pts with high bleeding risk, recommend 3 months therapy over extended therapy. Pt's on VKA therapy or DOAC and are compliant, LMWH preferred temporarily. Pt's on LMWH and complaint recommended increasing dose of LMWH by one quarter to one third
Atrial Fibrillation (AF) or Atrial Flutter (AFL)			
CHA ₂ DS ₂ -VASc Score Males = 0 Females = 1 (Low risk of Stroke)	No therapy		Antiplatelet therapy alone no longer recommended
CHA ₂ DS ₂ -VASc Score Males = 1 Females = 2	2.5 (2.0-3.0)		Anticoagulation might be considered (IIB Recommendation)
CHA ₂ DS ₂ -VASc Score Males = 2 Females = 3 (Moderate to Severe Risk of Stroke)	2.5 (2.0-3.0)	Indefinite	Maintain TTR >70%. DOAC preferred over VKA, PTs on VKA with TTR <65% recommend intervention to improve TTR or switch to DOAC, Pt's with prior GI bleed, Apixaban or Dabigatran 110mg BID preferred over other DOACs. Dabigatran 150mg BID recommended in pts at high risk of ischemic stroke
Mitral Stenosis	2.5 (2.0-3.0)	Indefinite	
Pre-Cardioversion (AF or AFL) >48 hours or unknown duration	2.5 (2.0-3.0)	At least 3 weeks before	VKA or DOAC
Post- Cardioversion	2.5 (2.0-3.0)	At least 4 weeks after	VKA or DOAC; Decisions about anticoagulation beyond 4 weeks should be made in accordance with risk-based recommendations for long-term antithrombotic therapy
Valve Replacement Bioprosthetic			
Mitral	2.5 (2.0-3.0)	3 months	Followed by ASA in ps with normal sinus rhythm
Valve Replacement Mechanical			
Aortic	2.5 (2.0-3.0)	Indefinite	
Bileaflet/Medtronic Hall tilting disk	2.5 (2.0-3.0)	Indefinite	
Ball and cage	3.0 (2.5-3.5)	Indefinite	
Mitral	3.0 (2.5-3.5)	Indefinite	
Bileaflet	3.0 (2.5-3.5)	Indefinite	
Tilting disk	3.0 (2.5-3.5)	Indefinite	
Ball and cage	3.0 (2.5-3.5)	Indefinite	

Optimal Therapeutic Range and Duration of Anticoagulant Therapy

Indication	Target INR	Duration	Notes
Orthopedic Thromboprophylaxis			
Hip Fracture Surgery (HFS) or Total Hip Arthroplasty (THA)	2.5 (2.0-3.0)	At least 10 days and up to 35 days post op	LMWH preferred. For pts with increased bleeding risk use IPCD (Primary alternative= apixaban, dabigatran. Secondary alternative = rivaroxaban or VKA)
Total Knee Arthroplasty (TKA)	2.5 (2.0-3.0)	10 days and up to 35 days post op	LMWH preferred. For pts with increased bleeding risk use IPCD (Primary alternative= apixaban, dabigatran. Secondary alternative = rivaroxaban or VKA)
Myocardial Infarction (MI)			
Anterior MI and LV thrombus or at high risk for LV thrombus (ejection fraction <40%, anteroapical wall motion abnormality)	2.5 (2.0-3.0)	3 months	
Anterior MI and LV thrombus or at high risk for LV thrombus (ejection fraction <40%, anteroapical wall motion abnormality) undergo bare-metal stent placement	2.5 (2.0-3.0)	3 months	
Anterior MI and LV thrombus or at high risk for LV thrombus (ejection fraction <40%, anteroapical wall motion abnormality) undergo drug-eluting stent	2.5 (2.0-3.0)	3-6 months	
Systolic left ventricular dysfunction with identified acute LV	2.5 (2.0-3.0)	3 months and reassess	
Valvular Disease			
Rheumatic mitral valve disease (w/ left atrial diameter >55mm, left atrial thrombus, afib or previous systemic embolism)	2.5 (2.0-3.0)	Indefinite	Rheumatic mitral valve disease pts with normal sinus rhythm and left atrial diameter < 55mm, no VKA is recommended
Rheumatic mitral valve undergoing percutaneous mitral balloon valvotomy (PMBV) with preprocedural TEE showing left atrial thrombus	3.0 (2.5-3.5)	Until thrombus resolution is documented by repeat TEE	If the left atrial thrombus doesn't resolve with VKA therapy, PMBV should not be preformed
Cryptogenic Stroke and Patent Foramen Ovale (PFO)			
With recurrent event despite ASA therapy	2.5 (2.0-3.0)	Indefinite	Consider of device closure
With evidence of DVT	2.5 (2.0-3.0)	3 months	Consider of device closure

Warfarin Dosing Strategy

A. Initiation of Warfarin

1. Initiate warfarin therapy at 5mg po qday x2 doses for most patients except as indicated below:
2. Initiate warfarin with a lower dose of 2.5mg qday x2 doses in the following patients:
 - a. Elderly patients >70yrs old
 - b. Low body weight patients <70kg
 - c. Elevated baseline INR >1.3
 - d. Patients with impaired nutritional status (low albumin)/poor po intake (npo >3days)
 - e. Patients with hepatic/renal insufficiency (abnormal LFTs, elevated Scr)
 - f. Previously documented sensitivity to warfarin
 - g. Congestive Heart Failure EF <30
 - h. Concurrent drug-drug interactions (ie. Fluconazole, itraconazole, ketoconazole, cimetidine, erythromycin, metronidazole, amiodarone, propafenone, quinolones, bactrim, tamoxifen,)
 - i. Asian population
 - j. Clinical hyperthyroidism
 - k. High bleeding risk
 - l. HCT <30
 - m. History of falls
3. Initiate warfarin with a higher dose of 7.5mg qday x2 doses in the following patients:
 - a. Weight >85kg
 - b. African American
 - c. Clinical hypothyroidism
 - d. Concomitant drug therapy (ie. Phenobarbital, rifampin, rifabutin, vitamin k)

Note: Regardless of warfarin initiation dose chosen, in the setting of acute anticoagulation (e.g. acute VTE) overlap with a rapid acting anticoagulant (i.e. UFH, LMWH, or fondaparinux) for at least 5 days and until the INR is ≥ 2.0 for 24hrs

B. Days 2-6 of Warfarin Therapy

1. IF <0.2 increase in INR in 1 day, then increase individual dose by 25-50%
2. IF 0.2-0.3 increase in INR in 1 day, give same dose
3. IF >0.3, but <1 increase in INR in 1 day, decrease individual dose by 25-75%
4. Consider holding warfarin if ≥ 1 increase in INR in 1 day or >2 increase in INR in 2 days even if INR does not meet criteria for hold.
5. Key points:
 - a. After day 6, calculate the weekly dose and determine further daily and/or weekly dosages using the Warfarin Dosing Nomogram for Maintenance Therapy (see [Attachment 2](#))
 - b. This protocol allows for consideration of a 30-50% dose reduction or increase when the patient has any of the following risk factors:
 - Initiation or discontinuation of a medication with significant drug interaction with warfarin (eg. Amiodarone, fluconazole, sulfamethoxazole/trimethoprim, ciprofloxacin)
 - Acute exacerbation of congestive heart failure
 - Acute renal failure
 - Severe heart failure (LVEF<30% and/or biventricular failure)
 - Severe chronic obstructive airway disease (steroid dependent)

C. Special Situations

Treatment of Subtherapeutic INR in Patient with High Thrombotic Risk

1. Definitions:
 - a. Subtherapeutic INR is defined as INR < 1.5 (for patients with INR goal range 2 to 3) or INR < 2 (for patients with INR goal range 2.5 to 3.5)
 - b. Patients with “high” risk for thromboembolism:²⁶
 - Mechanical heart valve
 - Mitral mechanical valve
 - Aortic mechanical valve with caged-ball or tilting disc
 - Any mechanical valve with recent stroke or TIA (within 3 months)
 - Atrial fibrillation
 - CHA₂DS₂ VASc score >4
 - Recent stroke or TIA (within 6 months)
 - Rheumatic valvular heart disease
 - VTE
 - Recent VTE (within 3 month)
 - Severe thrombophilia (eg, Protein C or S deficiency, antithrombin deficiency, APAS, or multiple thrombophilias)
2. Patients at high risk for thromboembolism with an INR range 2-3 presents with an INR <1.5, or a patient with an INR range 2.5-3.5 presents with an INR <2.0:
 - a. Evaluate patient for new, sudden onset signs or symptoms of anticoagulation:
 - Stroke –weakness on one side of the body, difficulty speaking, vision changes, headache,

- dizziness, syncope
- Pulmonary embolism – difficulty or painful breathing, chest pain, back pain, shoulder pain, dyspnea, hemoptysis, upper abdominal pain, syncope
 - Deep vein anticoagulation – sharp pains in leg (or arm), skin discoloration, edema, tenderness, skin warm to the touch or erythematous
 - If strong clinical suspicion of thromboembolism, refer patient to the ER for evaluation and notify Anticoagulation Service Medical Director.
- b. Evaluate lab result for possible error.
 - c. Adjust warfarin dose as appropriate (see Warfarin Dosing Nomogram for Maintenance Therapy).
 - d. Evaluate patient for LMWH therapy or if contraindicated, other appropriate antithrombotic therapy.
 - e. Evaluate renal function—calculate creatinine clearance for patient using a serum creatinine within the past 6 months. Refer to Injectable Anticoagulant Dosing Guideline.
 - f. Evaluate the patient’s CBC with platelets to rule out contraindications to LMWH/UFH therapy.
 - g. Evaluate patient’s ability to pay for LMWH and obtain any necessary insurance authorization or consider unmonitored SC UFH (see Injectable Anticoagulant Dosing Guideline).
 - h. Evaluate patient’s or caregiver’s ability to administer injections and provide education if needed.
 - i. Contact referring provider to call in prescription for LMWH to the patient’s pharmacy and ensure the LWMH is in stock at the pharmacy.
 - Document action taken in the patient’s electronic medical record (EMR).
 - Recheck INR every 2-4 days until therapeutic and continue LMWH therapy until INR in therapeutic range for two consecutive readings.
 - Contact Anticoagulation Service Medical Director or referring physician as needed for consultation.

Drug Name	Dabigatran	Rivaroxaban	Apixaban	Edoxaban
Conversion from Warfarin	Discontinue warfarin and initiate Dabigatran as soon as INR < 2.	Discontinue warfarin and initiate Rivaroxaban as soon as INR < 3.	Discontinue warfarin and initiate Apixaban as soon as INR < 2	Discontinue warfarin and initiate Edoxaban as soon as INR < 2.5
Conversion to Warfarin	CrCl >50mL/min: Initiate warfarin 3 days before discontinuation of dabigatran. CrCl 31 to 50mL/min: Initiate warfarin 2 days before discontinuation of dabigatran. CrCl 15-30mL/min: Initiate warfarin 1 day before discontinuation of dabigatran. CrCl <15mL/min: Dabigatran should not be used	Discontinue Rivaroxaban and begin both a parenteral anticoagulant and warfarin when the next dose of Rivaroxaban was due. Discontinue parenteral anticoagulant when INR reaches a therapeutic range.	Discontinue Apixaban and begin both a parenteral anticoagulant and warfarin when the next dose of Apixaban was due. Discontinue parenteral anticoagulant when INR reaches a therapeutic range.	Oral Option: Reduce Edoxaban dose by 50%, initiate warfarin, and continue Edoxaban until stable INR ≥2 achieved. Measure INR at least weekly and just prior to Edoxaban dose. Parenteral Option: Discontinue Edoxaban and initiate parenteral anticoagulant and warfarin at next scheduled Edoxaban dose.
Conversion from a parenteral anticoagulant	Initiate dabigatran ≤ 2 hours prior to the time of the next scheduled dose of the parenteral anticoagulant (e.g. enoxaparin) Initiate at time of discontinuation for a continuously administered parenteral drug (e.g. IV heparin).	Initiate Rivaroxaban 0-2 hrs before the next scheduled evening dose and discontinue the other anticoagulant. Initiate Rivaroxaban at time of heparin continuous infusion discontinuation	Initiate Apixaban at the time of the next scheduled dose of the parenteral anticoagulant. Start Apixaban when the parenteral anticoagulant infusion is stopped (consult local protocol if the aPTT is above the target range)	Initiate Edoxaban at the time of next scheduled dose of parenteral anticoagulant. Initiate Edoxaban 4 hours after heparin continuous infusion discontinuation
Conversion to a parenteral anticoagulant	CrCl ≥30ml/min: Wait 12 hours after the last dose of dabigatran before initiating. CrCl<30ml/min: Wait 24hrs after the last dose of dabigatran before initiating.	Start the parenteral anticoagulant when the next dose of Rivaroxaban was scheduled to be given	Start the parenteral anticoagulant when the next dose of Apixaban was scheduled to be given	Start parenteral anticoagulant when next Edoxaban dose scheduled to be given

Warfarin Dosing Nomogram for Maintenance Therapy		
Target INR 2 - 3	Dosing Adjustment	Target INR 2.5-3.5
INR < 1.7	<ul style="list-style-type: none"> Consider 1 booster dose of 1.5-2 times daily maintenance dose Consider resumption of prior maintenance dose if factor causing decreased INR is transient, (i.e. missed warfarin doses) If dosage adjustment is needed, increase maintenance dose by 5-15% 	INR < 2.2
INR 1.8 - 1.9	<ul style="list-style-type: none"> No dosage adjustment may be necessary if the last two INR's were in range, if there is no clear explanation for the INR to be out of range, and if in the judgment of the clinician, the INR does not represent an increased risk of thromboembolism for the patient Consider 1 booster dose of 1.5-2 times daily maintenance dose Consider resumption of prior maintenance dose if factor causing decreased INR is transient, (i.e. missed warfarin doses) If dosage adjustment is needed, increase maintenance dose by 5-10% 	INR 2.3-2.4
INR 2 - 3	Desired range- No dosing adjustment needed	INR 2.5 - 3.5
INR 3.1 - 3.2	<ul style="list-style-type: none"> No dosage adjustment may be necessary if the last two INRs were in range, if there is no clear explanation for the INR to be out of range, and if in the judgment of the clinician, the INR does not represent an increased risk of hemorrhage for the patient Consider continuation of prior maintenance dose if reason for elevated INR is transient (i.e. acute alcohol ingestion) If a dosage adjustment is needed, decrease maintenance dose by 5-10% 	INR 3.6 - 3.7
INR 3.3 - 3.4	<ul style="list-style-type: none"> Consider holding ½ to 1 dose Consider resumption of prior maintenance dose if reason for elevated INR is transient (i.e. acute alcohol ingestion) If a dosage adjustment is needed, decrease maintenance dose by 5-10% 	INR 3.8 - 3.9
INR 3.5- 4.0	<ul style="list-style-type: none"> Consider holding 1 dose Consider resumption of prior maintenance dose if reason for elevated INR is transient (i.e. acute alcohol ingestion) If a dosage adjustment is needed, decrease maintenance dose by 5-15% 	INR 4.0 - 4.4
INR 4.1-4.9	<ul style="list-style-type: none"> Hold 1-2 doses Consider resumption of prior maintenance dose if reason for elevated INR is transient (i.e. acute alcohol ingestion) If a dosage adjustment is needed, decrease maintenance dose by 10-15% Venous INR draw is warranted for any finger stick INR>4 	INR 4.5-4.9

Guidelines for Excessively Prolonged INR or Bleeding While on Anticoagulants

INR	Clinical Presentation	Treatment Options
Above upper limit of therapeutic range but <5	No Significant bleeding	<p>Give lower warfarin dose or hold warfarin dose, then adjust warfarin dose as appropriate.</p> <p>Monitor INR more frequently</p>
<p>5-<6</p> <p>*Consider Vitamin K 2.5mg PO x1 dose after consulting with MD</p>	No significant bleeding	<p>Hold 1 or 2 warfarin doses. Adjust warfarin dose by 10-15%.</p> <p>Monitor INR more frequently</p> <p>Notify referring MD or day LIP supervisor if referring MD n/a</p>
	Rapid reversal required for urgent surgery	<p>Hold warfarin dose</p> <p>Consult referring MD or day LIP supervisor if referring MD n/a</p>
<p>6-8</p> <p>*Any minor or major bleeding consider Vitamin K administration</p> <p>*Consider Vitamin K 5mg PO x1 dose after consulting with MD</p>	No significant bleeding	<p>Hold 1 or 2 warfarin doses. Adjust warfarin dose by 20-25%</p> <p>Monitor INR more frequently</p> <p>Notify referring MD or day LIP supervisor if referring MD n/a</p>
	Rapid reversal required for urgent surgery	<p>Hold warfarin dose</p> <p>Consult referring MD or day LIP supervisor if referring MD n/a</p>
≥8	No significant bleeding	<p>Hold warfarin dose</p> <p>Consult referring MD or day LIP supervisor if referring MD n/a</p> <p>Adjust warfarin dose as appropriate and monitor INR more frequently.</p>
Any or no INR	Serious or Life-threatening Bleeding	<p>Hold all anticoagulation medication</p> <p>Anticoagulation specialist will consult referring MD or day LIP supervisor if referring MD n/a regarding any patients on anticoagulation therapy experiencing bleeding</p> <p>Those requiring reversal will be referred to the emergency department for further management</p>

Frequency of Monitoring Anticoagulant Therapy

INR Monitoring for Warfarin Maintenance Therapy	
Significant Dose alteration in patient with INR substantially outside of target INR range	2-5 days
Modest dose change today	1-3 weeks
Dose change < 2 weeks ago	2-4 weeks
Routine follow-up of medically stable patients who have had at least two consecutive INRs, separated by at least two weeks, in therapeutic range	Every 4 weeks
Follow up of reliable, medically stable patients who have had therapeutic INR's maintained on the same warfarin dose for the past 6months and have been interviewed every 4 weeks	Every 12 weeks
Routine follow-up of medically unstable or unreliable patients and those who have not had consecutive therapeutic INRs	Every 1-2 weeks

Thromboembolic Risk Assessment:

	Atrial Fibrillation	Prosthetic Heart Valve	Venous Thromboembolism	Recommend
Low Risk	CHA₂DS₂-VASc Score 0-3 With <u>no</u> prior stroke or TIA	Valve Bileaflet aortic valve prosthesis without Afib, and no other risk factors for stroke.	Single VTE event greater than 12 months ago and no other risk factors	Suggest no bridging (Grade 2C)
Intermediate Risk	CHA₂DS₂-VASc Score 4 to 5 (regardless of sex) or previous stroke or TIA more than 3 months before	Bileaflet aortic valve prosthesis and any of the following: atrial fibrillation, prior stroke or TIA , hypertension, diabetes, CHF, age >75	VTE within past 3-12 months. Recurrent VTE Active cancer (treated within 6 months) Non-severe thrombophilia (heterozygous factor V Leiden mutation, Heterozygous factor II mutation)	Assess need for bridging based on patient-specific and surgery related factors
High Risk	CHA₂DS₂-VASc Score ≥ 6 (regardless of sex) or stroke or TIA within 3 months; rheumatic valvular heart disease.	Any mitral valve prosthesis. Caged-ball or tilting disk aortic valve prosthesis. Stroke or TIA within previous six months.	VTE within 3 months Severe thrombophilia (protein C, S or antithrombin deficiency, antiphospholipid antibody syndrome, or multiple abnormalities)	Suggest bridging

^a CHA₂DS₂-VASc: 1 point for presence of Congestive heart failure, Hypertension, Diabetes, Vascular disease, Age 65-74, and sex category female, and 2 points for Age ≥75 and prior Stroke or TIA.

Patients may be also considered high thromboembolic risk in the following scenarios and bridging should be considered

- Prior stroke or TIA occurring >3 months before the planned surgery and a CHA₂DS₂ VASc score <5
- Prior thromboembolism during temporary interruption warfarin
- Patient with remote (>1 year ago), severe VTE with resultant pulmonary hypertension
- Surgery associated with an increased risk for stroke or other thromboembolism (i.e. cardiac valve replacement, carotid endarterectomy, major vascular surgery)

** In the above patients at high risk for thromboembolism AND undergoing high-bleeding risk procedures (major cardiac surgery, carotid endarterectomy surgery), it is not unreasonable to consider no bridging**

Hemorrhagic Risk Assessment (HAS-BLED Score)

Letter	Clinical Characteristic	Points Awarded
H	Hypertension	1
A	Abnormal renal &/or liver function (1 pt each)	1 or 2
S	Stroke history	1
B	Bleeding	1
L	Labile INR	1
E	Elderly \geq 65 yo	1
D	Drugs or alcohol (1 point each)	1 or 2
		Maximum Score 9

Hypertension= SBP \geq 160 mmHg; Abnormal renal function = presence of chronic dialysis or renal transplantation or serum creatinine \geq 200 μ mol/L; Abnormal liver function= chronic hepatitis disease (ex. Cirrhosis) or biochemical evidence of significant hepatic derangement (ex. Bilirubin $>$ 2X upper normal limit, in association with AST/ALP/ALP $>$ 3X upper limit normal ect.); Bleeding= previous bleeding history or predisposition to bleeding (ex. Bleeding diathesis, anemia, etc.); Labile INRs = unstable/ high INRs or poor time in therapeutic range (ex $<$ 60%); Drugs or alcohol = concomitant use of drugs, such as antiplatelet agents, non-steroidal anti-inflammatories, or alcohol abuse, etc.; INR= international normalized ratio

Procedural Bleeding Risk Assessment

High Bleeding Risk Procedures (2-day risk of major bleed \geq	Low Bleeding Risk Procedures (2-day risk of major bleed $<$ 2%)	Minimal bleeding risk procedures
Hold warfarin	MD to determine warfarin hold	Do not hold warfarin
<ul style="list-style-type: none"> Major surgery with extensive tissue injury or procedure duration $>$45 minutes Major thoracic surgery Aortic aneurysm repair Peripheral artery bypass and other major vascular surgery Intracranial, or spinal surgery Major orthopedic surgery Reconstructive plastic surgery Surgery in highly vascular organs (kidneys, liver, spleen) Major cancer surgery (Neurosurgical/urologic/head and neck/abdominal/breast) Urologic, gastrointestinal surgery Prostate and bladder surgery Bowel, or colonic polyp resection Renal biopsy Gastric polypectomy Epidural injections 	<ul style="list-style-type: none"> Abdominal hernia repair Abdominal hysterectomy Arthroscopy Bronchoscopy \pm biopsy Cutaneous/lymph node biopsies Should/foot/hand surgery Gastrointestinal endoscopy or colonoscopy \pm biopsy Hemorrhoid surgery Pacemaker or cardioverter-defibrillator device implantation 	<ul style="list-style-type: none"> Minor dermatologic procedures (eg. Excision of basal and squamous cell carcinomas actinic keratosis, malignant or pre-malignant nevi) Minor ophthalmologic procedures (eg. Cataract extraction) Minor dental procedures (dental extractions, restorations, prosthetics, root canals, dental cleanings or fillings)

Perioperative Anticoagulation Management: Warfarin

Thromboembolic Risk Stratum	Recommend
Low Risk	<p>Pre: Hold warfarin for 2-5 days prior to procedure depending on bleeding risk as determined by proceduralist. Check INR 1 day prior and inform proceduralist. No enoxaparin bridging necessary.</p>
	<p>Post: Resume warfarin approximately 12-24 hours after surgery and when adequate hemostasis achieved as determined by proceduralist and referring physician.</p>
Intermediate and High Risk	<p>Pre: Hold warfarin for 2-5 days prior to procedure depending on bleeding risk as determined by proceduralist. Enoxaparin SC* 1.5mg/kg/day or 1mg/kg every 12 hours to commence 24-48hrs after pt's last warfarin dose. Check INR 1 day prior and inform proceduralist. Administer last pre-procedure enoxaparin dose at least 24 hours prior to the surgery/procedure or as determined by proceduralist.</p>
	<p>Post Minor Surgery/Low bleeding risk: Resume enoxaparin SC*, 1.5mg/kg/day or 1mg/kg every 12 hours, 12-24 hours after the procedure or as determined by proceduralist and referring physician</p>
	<p>Post-Surgery/Moderate bleeding risk: Resume enoxaparin SC*, 1.5mg/kg/day or 1mg/kg every 12 hours, 48 hours after the procedure or as determined by proceduralist and referring physician</p>
	<p>Post-Surgery/High bleeding risk: Enoxaparin SC* 40mg daily start 24 hours after the procedure or as determined by proceduralist and referring physician</p>
	<p>Post-Surgery/Very high bleeding risk: No post-procedure enoxaparin or as determined by proceduralist and referring physician</p>
	<p>Post-Surgery Warfarin: Resume warfarin approximately 12-24 hours after surgery and when adequate hemostasis is achieved. Post procedure enoxaparin orders will be discontinued when patient's INR is within the established therapeutic range on two consecutive days. or as determined by proceduralist and referring physician</p>
	<p>*NOTE: If CrCl < 20mL/min recommend inpatient heparin infusion as an alternative</p>

Perioperative Management for Dental Procedures**Warfarin**

Continue warfarin (with hemostatic agent) for minor dental procedures



Alternatively hold warfarin 2-3 days prior to dental procedure.

Pt's with prior stroke undergoing dental procedures should routinely continue warfarin

Injectable Anticoagulant Dosing Guideline

Drug	VTE Treatment Dose	Laboratory Monitoring
Enoxaparin	1mg/kg SC every 12 hours or 1.5mg/kg SC once daily Dose adjustment for Renal Dysfunction (CrCl<30ml/min): 1mg/kg SC once daily Renal Dysfunction (CrCl<15ml/min): Use sc UFH or Consult covering LIP or anticoagulation medical director	Baseline CBC with platelets, SCr (calculate CrCl) Check SCr periodically
Dalteparin	SubQ: 200 units/kg once daily or 100 units/kg twice daily	Routine monitoring of anti-Xa activity is not required but has been utilized in patients with obesity and/or renal insufficiency. Anti-Xa activity is an appropriate measure for therapeutic effect but is a poor predictor of hemorrhagic risk

Bridge Therapy Patient Instructions for Managing Anticoagulant Therapy for Procedures

University of Connecticut Anticoagulation Clinic Bridging Schedule				
Patient Name:		TOO:	DOB: MM/DD/YYYY	
INR Range:			Current Warfarin Dose:	
Warfarin Indication:		Lovenox Dose (mg):	Thromboembolic Risk:	
Procedure:		Date of Procedure	Hold Warfarin (Days)	
HT:	WT:	SCR:	CRCL:	
	AM		PM	
5 Days before Procedure				
4 Days before Procedure				
3 Days before Procedure				
2 Days before Procedure				
1 Days before Procedure				
Day of Procedure				
1 Days after Procedure				
2 Days after Procedure				
3 Days after Procedure				
4 Days after Procedure				
5 Days after Procedure				



mm/dd/yy

First name Last Name

Address

City, State Zip

Subject: Anticoagulation Clinic Reminder Letter

T00:

Dear Mr./Ms.,

You have been under the care of our UConn Health Anticoagulation Clinic staff for anticoagulation management for XXXX. Our records show you were either due for a clinic visit or bloodwork on mm/dd/yyyy. We have made three attempts during the past two weeks to reach you by phone regarding your anticoagulation therapy but have not received a return call from you.

We would like to ensure that your dose is optimal and that you are not experiencing any side effects from the medicine. Anticoagulation therapy can be a very dangerous medication if used improperly, or if your bloodwork is not checked regularly. We are not able to instruct you on your anticoagulation dosage without recent bloodwork or if we are unable to contact you.

Your health is very important to us and we want to ensure that you receive the best possible care, but effective communication is essential in helping us achieve this goal. It is important for you to participate in your own care.

Our clinic staff is available Monday through Friday 8:00am to 4:30pm. Please contact us at (860) 679-3470 as soon as possible regarding your anticoagulation therapy. We look forward to hearing from you soon and helping you maintain a healthy lifestyle while on anticoagulation.

Sincerely,

Heiko Schmitt, M.D., Ph.D.
Anticoagulation Medical Director

cc: referring physician



First Name Last Name
Address
City, State Zip Code

Date: mm/dd/yy

Subject: Anticoagulation Clinic Final Reminder Letter

T00:

Dear Mr./Ms.:

You have been under the care of our UConn Health Anticoagulation Clinic staff for anticoagulation therapy management for XXX. Our records show you were either due for a clinic visit or bloodwork on mm/dd/yyyy.

We have attempted to contact you multiple times regarding your anticoagulation therapy but have not received a return call from you.

The optimal anticoagulation therapy for you may change from time to time. To keep you safe and healthy, the ideal therapy should be determined by the Anticoagulation Specialist. If your anticoagulation is not optimal, serious bleeding or hemorrhage can occur. If the regimen is not evaluated properly, blood clots can form and lead to a heart attack, stroke, or a pulmonary embolism (blood clot in the lung).

Your health is very important to us and we want to ensure that you receive the best possible care. While we are responsible for informing you about anticoagulation management strategies, it is up to you to follow through with our recommendations. Effective communication is essential in helping us achieve this goal.

Please contact the clinic staff at (860) 679-3470 Monday through Friday 8:00am – 4:30pm regarding your anticoagulation therapy. We look forward to hearing from you.

If you are no longer taking anticoagulation therapy, are being followed by another health care provider, or are unable to have your blood checked due to unforeseen circumstances please notify the clinic staff.

If we do not hear from you within 10 days from the date of this letter, we will assume that you wish to be discharged from the clinic. You will not receive care beyond that date.

Sincerely,

Dr. Heiko Schmitt, M.D., Ph.D.
Anticoagulation Medical Director

cc: referring physician



mm/dd/yy

First Name Last Name

Address

City, State Zip

Subject: Anticoagulation Clinic Initiation of Care

T00

Dear Mr./Ms.,

We received a referral to manage your anticoagulation therapy for XXX on mm/dd/yy from Dr. XX's office. We have made three attempts during the past week to reach you by phone, but have not received a return call from you.

Please contact the UConn Health Anticoagulation Clinic office as soon as possible to establish care. If we do not hear from you within 10 days from the date of this letter, we will assume that you no longer wish to receive care from the clinic. You will not receive care beyond that date.

Our clinic staff is available Monday through Friday 8am-4:30pm. Please contact us at (860) 679-3470 as soon as possible to schedule your appointment. We look forward to serving you.

Sincerely,

Heiko Schmitt, M.D., Ph.D.
Anticoagulation Medical Director

cc: referring physician



mm/dd/yy

First Name Last Name
Address
City, State Zip

Subject: Anticoagulation Clinic Discharge Patient Letter

T00:

Dear Mr./Mrs.,

You have been discharged from the UConn Health Anticoagulation Clinic for failure to either contact the clinic to initiate anticoagulation care or follow clinic staff recommendations despite reminder calls and follow up letters from our office.

We regret to advise you that, as a result of your lack of cooperation, we can no longer share responsibility with you for the management of your anticoagulation therapy.

In accordance with our non-compliance policy, we have transferred your anticoagulation care back to Dr. XXXX.

Please don't hesitate to contact the Anticoagulation Clinic office at 860-679-3470 if you have any questions or concerns.

Sincerely,

Heiko Schmitt, M.D., Ph.D.
Anticoagulation Medical Director

cc: referring physician

mm/dd/yy

Dr. First name Last Name

Address

City, State Zip

Subject: Anticoagulation Clinic Discharge Letter to MD

T00:

Dear Dr.,

Your patient, XXXX has failed to contact the clinic to either initiate anticoagulation care or follow clinic staff recommendations despite reminder calls and follow up letters from our office.

We have notified XXXXXX that we are unable to manage anticoagulation therapy for non-compliant patients. Therefore, in accordance with our non-compliance policy, we will be discharging the patient from our service back to yours.

Thank you for allowing us to work with you and your patients. We look forward to meeting your future needs. Please don't hesitate to contact the UConn Health Anticoagulation Clinic office at 860-679-3470 if you have any questions or concerns.

Sincerely,

Heiko Schmitt, M.D., Ph.D.
Anticoagulation Medical Director

cc: referring physician

Anticoagulation Warfarin Referral

Ambulatory referral to Anticoagulation Monitoring

Internal Referral, UMSI ANTICOAGULATION, Anticoagulation

Class: Internal Ref Internal Referral Outgoing Referral

Referral: Override restrictions

To dept:

To dept spec:

To provider:

Reason:

INR Goal:

Send INR Reminders to:

Target End Date: Indefinite

Reason for Referral:

[Show Additional Order Details](#)

Active Anticoagulation Episode in Epic

Andy Test [T00596519]

Status: Active (2/17/2019) ANTICOAGULATION MONITORING episode: Anticoagulation

Anticoagulation Episode Summary

Current INR goal:	2.0-3.0	Indications
TTR:	—	Long term (current) use of anticoagulants [Z79.01]
Next INR check:		Paroxysmal atrial fibrillation (CMS/HCC) [I48.0]
INR from last check:		
Weekly max warfarin dose:		
Target end date:	Indefinite	
INR check location:		
Preferred lab:		
Send INR reminders to:	UMSI ANTICOAG SUPPORT STAFF	

Comments:

Anticoagulation Care Providers

Provider	Role	Specialty	Phone number
Schmitt, Heiko, MD	Referring	Cardiology	860-679-3343

PT/INR Lab Requisition

Prothrombin time (PT) with INR ● Accept Cancel Remove

Expires: 1/1/2020 Auto-release, Interval: Every Weekday, Count: 365, Lab Collect, Blood, Venous, Blood, Resulting Agency - UCONN HEALTH, JOHN DEMPSEY HOSPITAL LABORATORY

Status: Normal Standing Future

Release: Auto Manual Interval: Every Week, Count: 365

Expires: 1/1/2020 1 Month 2 Months 3 Months 4 Months 6 Months 1 Year 18 Months

Priority:

Class:

Specimen Src:

Is the PT order part of a stroke protocol? Yes No

Comments: [Click to add text \(F6\)](#)

Resulting Agency:

Add-on: No add-on specimen found

[Show Additional Order Details](#)

Providers Close

Authorizing Providers Filter: Nearby

For procedures

Cosigners Cosign required

For procedures

!

Accept Cancel

Referral and Collaborative Practice Agreement Renewal
(will be sent to referring physician yearly for cosignature and attestation)

Andy Test [T00#]

Status: Active (9/24/2018)

ANTICOAGULATION MONITORING episode:
 Anticoagulation

Anticoagulation Episode Summary

Current INR goal: 2.0-3.0
 TTR: —
 Next INR check:
 INR from last check:
 Weekly max dose:
 Target end date: Indefinite
 INR check location:
 Preferred lab:
 Resolved date: 9/24/2018
 Resolved reason:
 Send INR reminders to: UMSI ANTICOAG SUPPORT STAFF
 Comments:

Indications

Long term (current) use of anticoagulants [Z79.01]
 Chronic atrial fibrillation (CMS/HCC) [I48.2]

Anticoagulation Care Providers

Provider	Role	Specialty	Phone number
Referring Physican,MD	Referring		

III. COLLABORATIVE PRACTICE AGREEMENT:

Under this collaborative practice agreement, UConn Health Anticoagulation Specialist(s), according to and in compliance with section 91 of Public Act 10-117 and Connecticut General Statutes sec 20-631 “Collaborative Drug Therapy Management”, may design, implement, and monitor a therapeutic drug plan intended to manage anticoagulation therapies. Anticoagulation Specialist(s) may sign patient summaries for assisted living facilities as well as orders for visiting nurses. Services offered by the Anticoagulation Specialist(s) may include education on disease state and lifestyle modification, in addition to the drug therapy services listed above. Written educational materials and patient specific information may be provided to improve quality of care.

The Anticoagulation Specialist(s) may initiate, discontinue, or adjust anticoagulation therapies in accordance with current treatment guidelines, may order laboratory tests appropriate to the disease or drug therapy. Education at office visits shall include appropriate counseling on all new medications. The results of all lab tests ordered under the protocol shall be reviewed and managed by the Anticoagulation Specialist(s) to assess efficacy of treatment and necessity for medication and/or therapeutic lifestyle change. Lab results will be relayed to clinic patients by a patient-specific predetermined method which may include face-to-face encounter, written communication, secure electronic, or telephone communication. Any lab outliers that require further investigation will be sent to the referring physician and/or PCP as appropriate and the patient will be told to contact that LIP immediately. If the LIP is not available, the patient will be sent to the UConn Health Emergency Department.

A patient whose drug therapy is managed under this agreement must have established care with a provider within UConn Health and all aspects of the patient’s anticoagulation medication management will be followed in collaboration with the patient’s referring provider (or primary care as necessary). In addition, the patient must be seen by their UConn Health provider at least once per year, in addition to which cases may be reviewed with clinic medical directors as needed. All issues outside of the scope of anticoagulation medication management shall be referred to the patient’s primary care provider, daily supervising LIP or medical director(s).

The Anticoagulation Specialist(s) will assure documentation of allergies and adverse drug reactions prior to initiation of the anticoagulation service and, in the course of the above mentioned therapy, shall document all activities appropriately in the medical record.

The pharmacist will report at least every thirty days to the collaborating physician regarding the patient’s drug therapy management.

Approved by Dr. Heiko Schmitt, Anticoagulation Clinic Medical Director and UConn Health Pharmacy & Therapeutics Committee on MM/DD/YYYY. Referral to this service constitutes agreement by the referring provider with this collaborative practice agreement and satisfies all state legal requirements of a pharmacist collaborative practice agreement. Under Connecticut state law and CMS requirement. The collaborative practice agreement and referral must be renewed yearly by each referring LIP by signing a new agreement.

PCP/ReferringLIP: Dr. Heiko Schmitt Signature: _____ Date: 5/1/18 This Collaborative Practice Agreement was enacted for Andy Test T00# On mm/dd/yyyy A copy of the entire collaborative practice agreement is available on the University of Connecticut Health Center Anticoagulation Service website: . Location and contact information for the anticoagulation services and staff can also be located there.

(Patient Identification)

Anticoagulation Clinic Patient Agreement

- I understand that in order to be a participant in the anticoagulation clinic, I will need to have regular blood testing done as directed by the clinical staff.
- I understand that if I miss more than 3 appointments or scheduled blood draws, I may be discharged from the clinic.
- I will notify the clinic regarding any planned medical, surgical or dental procedures.
- I understand that I need to keep my scheduled yearly appointment with the UConn provider who prescribed my anticoagulation therapy (blood thinner medication).
- I understand that I need to keep my scheduled appointment with the Anticoagulation Clinic at least quarterly or 4 times per calendar year.
- I will call the anticoagulation clinic if I do not receive instructions within 48 hours after a blood test or if my medical condition (including medications) changes.
- I am able to travel to the clinic or arrange for transportation for my appointments.
- I am willing to take the prescribed medication as directed by the Anticoagulation Clinic Staff and follow instructions given to me by the Anticoagulation Clinic staff regarding dosage and diet.
- I will notify the clinic regarding all medications that I am taking (even over the counter & herbals).
- I have access to a telephone and can be reached by telephone if necessary.
- I am taking a medicine that must be followed closely in order to protect me from any complications. I understand that not following clinic recommendations can result in serious health risks and/or termination with the program.

In some cases when we are unable to speak with you directly, we may need to send secure e-mail, leave a voice mail or answering machines message with detailed information about your condition or treatment (such as the results of tests or the scheduling of procedures). You should be aware that other individuals who have access to your e-mail, voice mail or answering machine could read/hear these messages. At home, this may mean that other members of your family could read/hear these messages. At work, it may mean that your employer could read/hear these messages. **Please tell us where we MAY leave a DETAILED message:**

Home Work Mobile E-mail

None, do not leave detailed messages by secure e-mail, on my voice mail or answering machine.

Patient signature

Date/Time

Anticoagulation Clinic staff signature

Date/Time

HCH2428

HCH-2428 Eff. 3/2013 Rev. 4/2013, 9/2015, 3/2019
Page 1 of 1 NCR

Anticoagulation Education Waiver

I understand that I am currently taking or have been prescribed to take _____ which is an anticoagulant (blood thinner) medication. I understand that the University of Connecticut Health Center (UCHC) Anticoagulation Clinic has offered to provide me education on this medication. I understand that this education is intended to improve my understanding of my therapy and associated disease state and is an essential process for ensuring safe and effective use of the prescribed medication therapy.

By signing below, I am indicating that I decline the anticoagulation education session provided by the UCHC Anticoagulation Clinic.

I understand that I can choose to request anticoagulation education at any time, even after signing this form.

Signature of Patient/Authorized Representative

Date/Time

Anticoagulation Clinic staff signature

Date/Time

HCH2430



(Patient Identification)

WARFARIN PATIENT QUESTIONNAIRE

MEDICATION						
1. What dose of Warfarin have you been taking since your last visit?						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
_____mg	_____mg	_____mg	_____mg	_____mg	_____mg	_____mg
2. Did you miss any of your warfarin doses since your last INR check?					YES/NO	
3. Did you take any extra doses of warfarin since your last INR check?					YES/NO	
4. Have you started/stopped or had dose change in any of your medications since your last INR check?					YES/NO	
5. On the back of this page, please provide us a list of all medication you're currently taking, including over-the-counter medications, natural products, and food supplements.						
HEALTH						
1. Your level of activity since your last INR check?					INC/DEC/SAME	
2. Your weight since your last check?					INC/DEC/SAME	
3. Have you experienced any bleeding or bruising since your last INR check?					YES/NO	
4. Have you been sick (eg. vomiting/diarrhea/fever) since your last INR check?					YES/NO	
5. Have you had any hospitalizations or ER visits since your last INR check?					YES/NO	
6. Have you had signs of clotting (swollen leg, shortness of breath, severe headache chest pain, dizziness, slurred speech, confusion) since your last INR check?					YES/NO	
DIET						
1. Consumption of green vegetables since last INR check?					INC/DEC/SAME	
2. Any changes in general since your last INR check?					YES/NO	
3. On average, how many cigarettes, if any, do you smoke in a day? _____						
4. How much alcohol, if any, have you consumed since last INR draw? Please state how many glasses of the following:						
Wine _____ Beer _____ Hard Liquor _____ Other _____						
PROCEDURES (MEDICAL/DENTAL/SURGICAL)						
1. Do you have any upcoming procedures/extended trips planned?					YES/NO	
2. Date of procedure/extended trip? _____						
3. Any other complaints? _____						
_____ Signature of Patient/Authorized Representative:					_____ Date/Time:	
_____ Reviewed by:					_____ Date/Time:	

HCH2429

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HISTORICAL INFORMATION

ORIGIN DATE: REVIEW DATES: 03/27/2013, 6/4/2019

REVISION DATES:

APPROVAL DATES:

(more historical information can be obtained from the P&T Minutes)

OWNER:

APPROVAL BODY: Pharmacy and Therapeutics Committee