



**NEPHROLOGY PROGRAM
DEPARTMENT POLICIES AND PROCEDURES**

**Hemodialysis - Section 07 - Medication - Neph 7-15
Monitoring INR and Dosing of Warfarin in Hemodialysis Patients by the
Ottawa Hospital Thrombosis Team
No.: 00778 (TOH Standardized Policy Number)**

ISSUED BY:
Hemodialysis Clinical Practice Committee

DATE OF APPROVAL:
N/A

APPROVED BY:
Program Clinical Director and Division
Head

LAST REVIEW/REVISION DATE:
2016/05

CATEGORY:
Medication

IMPLEMENTATION DATE:
2012/02

PURPOSE:

- Patients on hemodialysis may be ordered Warfarin for a variety of medical conditions including atrial fibrillation, coronary stenting, prosthetic heart valves, deep vein thrombosis, coagulopathies or occasionally vascular access challenges
- Patients who are on Warfarin require adjustment of their anticoagulation prior to invasive procedures or surgery
- The Thrombosis Unit provides expertise in anticoagulation and their involvement in our patient's care should lead to improved patient outcomes

DEFINITION(S): N/A

ALERTS: N/A

PROCEDURE:

Section A: Patient intake to the thrombosis unit and transition of care

1. Any patient who is currently on, starting on, or transfers into the hemodialysis unit on Warfarin, needs to be referred to the Thrombosis Unit for assessment

2. Once the initial patient assessment has been completed in the Thrombosis Clinic, the Thrombosis team will then assume full responsibility for INR monitoring and Warfarin dosing with an annual follow up clinic visit for reassessment
3. The Care Facilitator/designate/Liaison Nurse of each hemodialysis unit will notify the Nephrologist of any new patients transferring into their unit who have been prescribed Warfarin to consult the Thrombosis unit so that an appointment for initial assessment will be initiated
4. The Care Facilitator/designate/Liaison Nurse will enter the FPO: Warfarin/Thrombosis for each new patient taking Warfarin. This standing order will remain active and acts as a reminder that patient is taking Warfarin and will require a peri-procedure plan prior to dialysis access procedures/surgery
5. Nephrology RN/RPN's will notify the Nephrologist to consult the Thrombosis unit if prescribing Warfarin for a patient for the first time
6. The Nephrologist will sign the pre-printed consult and advise the patient that a consultation has been made to the Thrombosis Unit for monitoring and dosing of Warfarin. The consults will be pre-printed stating "Please manage anticoagulation. Patient on dialysis. Reviewed with Dr. Rodger, book as code 2 with any thrombosis physician. Please provide standing peri-procedure plan on dictated note in Oacis"
7. **The Nephrology clerk will**
 - i. Notify the Care Facilitator/delegate of the date of the appointment with the Thrombosis Team
 - ii. Enter the appointment in NephroCare and include the "Thrombosis Team" in brackets beside the Dr.'s name
 - iii. Give an appointment card to the patient
8. The Thrombosis Team will include on the 1st faxed INR Management Instruction Sheet sent to the patient's unit confirmation that anticoagulation care will be assumed by their team as of that date. Note: All patients will be taught Self-Administration of S/C anticoagulation at their initial visit to the Thrombosis Clinic
9. The Care Facilitator /delegate or Liaison Nurse will document this transition of care in NephroCare using the pre-scripted phrase as outlined in the Documentation section
10. The Care Facilitator/delegate will monitor OASIS to ensure that the initial consultation letter outlining recommendations for anticoagulation management, including peri-procedure/operative management, has been outlined in the event that Warfarin needs to be held. If the documentation is not available in OASIS within 3 weeks of patient assessment and/or does not include peri-procedure/operative recommendations, the Care Facilitator/delegate will follow up with the thrombosis team via e-mail
11. Monthly the Care Facilitator\delegate will print a report (R1624) from NephroCare to identify all patients on Coumadin

Section B: Routine monitoring and warfarin dosage changes

1. All requisitions for INR blood work will indicate 'Dr. Marc Rodger' as the ordering physician. The frequency of INR testing will be individualized as determined by the Thrombosis Team Any "Critical" INR results reported after hours (weekends and after 5pm and INR>5) for this patient group, will be called directly to the Thrombosis Physician on-call by the lab
2. The Pharmacist or designate of the Thrombosis unit will inform the patient of their INR result and of any required change in dose of Warfarin. Method of communication with each patient will be determined during the patient's initial assessment visit with the Thrombosis Team. If the patient is living in a Residence/Nursing Home/Care facility where medications are not self-administered, the Thrombosis Team will contact the facility directly with any new orders
3. The Thrombosis unit will fax all changes in frequency of INR testing and Warfarin dosage to the patient's hemodialysis unit:

Fax numbers:

- i. Civic: 613-761-4090,
 - ii. General: 613-739-6625,
 - iii. Riverside: 613-738-8220,
 - iv. Cornwall Community Hospital Hemodialysis Unit: 613 936-4671,
 - v. Cornwall Dialysis Clinic: 613 937-0999,
 - vi. Hawkesbury Hemodialysis Unit: 613 636-6185,
 - vii. Ottawa Carleton Dialysis Clinic: 613 228-3321,
 - viii. Bruyere Continuing Care Dialysis Unit: 613 782-2849,
 - ix. Renfrew Victoria Hospital Hemodialysis Unit: 613 432-4349,
 - x. Winchester District Memorial Hospital Hemodialysis Unit: 613 774-7082,
 - xi. Home Hemodialysis Unit: 613 738-8334)
 - xii. Renal Transplant Clinic 613 738-8489
 - xiii. Queensway Carleton Hemodialysis Unit: 613-721-2034
4. Nephrology/hemodialysis nurses will ensure that each patient has an active/up to date INR testing order and enter any new INR testing order into NephroCare using the FPO titled "INR as per Thrombosis" once the order is received
 5. The Nephrology nurse will also notify the clerk of any change in INR testing. Note: **Warfarin is recorded as a medication in NephroCare but the dose is not to be recorded**
 6. If a patient permanently moves to another hemodialysis unit, is transplanted or transfers to a home therapy, the Care Facilitator/Delegate/Liaison Nurse will inform the Thrombosis Pharmacist/Thrombosis Unit at **613-737-8899 ext. 71051** or via email at [*INR management](#) of this change so that all future orders are faxed to the appropriate unit
 7. Nephrology nurses will continue to notify the Nephrologists of any bleeding or related complications that arise

Section C: Non-routine care

1. When patients are admitted, the admitting Physician will monitor INR and Warfarin dosing. The Thrombosis Team will be aware of all hospital admissions through OASIS
2. If Warfarin is held or discontinued by the Nephrologist for any reason, the hemodialysis nurse will inform the Thrombosis Unit at **613-737-8899 ext. 71051** or via email at [*INR management](#) and the Nephrologist will document the reason for holding/discontinuing Warfarin in NephroCare
3. If patient requires an invasive procedure that requires alterations in anticoagulation, the Nephrologist will refer to the Thrombosis Team's initial consult note in Oasis which should include Peri-procedure guidelines for anticoagulation management. These will be reviewed annually at the patient's follow up visit to the Thrombosis Clinic
4. The Nephrologist will decide whether he/she wishes to follow these guidelines. Alternatively, the Nephrologist may decide to re-consult the Thrombosis Team or order a different regimen. The Care Facilitator/delegate will inform the Thrombosis Team Pharmacists via e-mail if the peri-procedure plan is ordered differently by the nephrologist. The e-mail will be sent to the following e-mail address:
***INR management**
5. If the invasive procedure is related to a vascular access or PD access, the Dialysis Access RN/APN or delegate will inform the Thrombosis Team Pharmacists via e-mail of the peri-procedure plan. The e-mail will be sent to all of the following address;
***INR management.** The Dialysis Access RN/APN will notify the Nephrologist to write the anticoagulation orders in NephroCare as outlined
6. Nephrologist to enter Frequently Prescribed Order (FPO) titled **Peri-Procedure Bridging:**

Starting pre-procedure day____
[Insert bridging plan here]
INR post procedure qHD x____
Notify INR management once SC injections discontinued
7. The Nephrologist will write a prescription for low molecular weight Heparin if required. **Note:** Tinzaparin Limited Use Code is 188. If the patient is unable to self-administer low molecular Heparin and is not in a care facility, the Nephrologist will need to complete a CCAC referral
8. The nurse who provides the patient with the prescription for Tinzaparin must ask the patient if he/she is comfortable administering Tinzaparin and provide patient education materials for self-administration of anticoagulation if required. All patients will have received self-administration education at their initial visit in the Thrombosis Unit. If the patient did not receive this education, the nurse is to contact the Thrombosis Unit RN at **613-737-8899 ext. 78060** to arrange an appointment with the Thrombosis Nurse for Self-Administration Education

9. During the time that a patient is receiving Tinzaparin, monitoring and dosing of anticoagulation is the responsibility of the Nephrologist. Once Tinzaparin has been discontinued, the Nephrology Nurse or Care Facilitator will notify the Thrombosis Team who will then resume management of the patient's anticoagulation

Section D: DOCUMENTATION

1. When the acceptance of care confirmation letter is received from the Thrombosis Unit, the Nephrology nurse will:
 - Create a Progress note using the following pre-scripted phrase titled "INR care transfer –Thrombosis" containing the following text:
 - "Confirmation of Transfer of Care of Anticoagulation Management to TOH Thrombosis Program Anticoagulation Management Service has been received. Thrombosis Unit to assume care of oral anticoagulation management effective-_____" and fill in the date of transfer
 - **Create an allergy** which states INR FOLLOWED BY THROMBOSIS UNIT or modify the existing INR problem. E.g. INR range 2-3 for INR FOLLOWED BY THROMBOSIS
2. **Warfarin is recorded as a medication in NephroCare but the dose is not to be recorded. Certain fields must be entered in order to process the med order. Enter 0 mg po as the dose and frequency "as directed". Add to the comment box "dosing by thrombosis"**
3. When any changes to INR testing schedule are received from the Thrombosis Unit, enter into NephroCare using the FPO titled "INR as per Thrombosis" once the order is received using Dr M Rodger as the ordering physician and give a copy of the order to the clerk

RELATED POLICIES / LEGISLATION: N/A

REFERENCES:

1. Oake N, van Walraven C, Rodger MA, Forster AJ Effect of an interactive voice response system on oral anticoagulant management. CMAJ 2009 Apr 28; 180(9):927-33

COMMENTS / SIGNIFICANT REVISIONS: N/A