Anticoagulation Therapy 2012

Nursing Policy #220.14
A 2009 Joint Commission Safety Standard

• Facilities are to establish an anticoagulation therapy policy to assure safe and best practice standards for patients receiving this type of therapy.

• Anticoagulation medication is considered a high risk medication.
Purpose:

- To provide for safe, effective, and individualized anticoagulation therapy to patients at Richmond State Hospital, using the American College of Chest Physicians 2008 guidelines.
- To establish protocols for anticoagulant medication administration.
- To provide protocols for assessing and monitoring patient response to anticoagulation treatment.
- To reduce the risk of adverse drug events associated with anticoagulation therapy.
Policy

- Warfarin (Coumadin) is the only anticoagulant medication that is routinely administered at RSH.
- Enoxaparin (Lovenox) is not initiated at RSH, but may, on rare occasions, be continued on a temporary basis for individual patients, and will be managed with individualized protocols from a specialist.
- Heparin is not given at Richmond State Hospital.
Goals for Treatment

• The goal of anticoagulation therapy is to prevent pathological clot formation in patients who are at increased risk for such clots.

• Warfarin is prescribed at a dose needed to achieve and maintain an **INR** (International Normalized Ratio that is derived from the prothrombin time) laboratory value that **falls within the therapeutic range** defined by the prescribing physician.
INR Basics

• The INR value in most people is normally around 1.0

• The therapeutic range of the INR for patients on anticoagulation therapy is somewhere between 2.0 and 3.5, depending on the diagnosis that increases the clotting risk for those patients.

• The higher the INR, the longer the time the blood takes to clot, and the higher the risk for bleeding.
# Indications for Anticoagulation Therapy with associated therapeutic ranges

<table>
<thead>
<tr>
<th>Indication</th>
<th>Target INR</th>
<th>INR Therapeutic Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prophylaxis Venous Thrombosis</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Treat Venous Thrombosis</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Treat Pulmonary Emboli</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Atrial fibrillation</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Recurrent embolism</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Post MI</td>
<td>3.0</td>
<td>2.5 – 3.5</td>
</tr>
<tr>
<td>Bioprosthetic valve</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Bileaf valve in A position</td>
<td>2.5</td>
<td>2.0 – 3.0</td>
</tr>
<tr>
<td>Mechanical valve + risk</td>
<td>3.0</td>
<td>2.5 – 3.5</td>
</tr>
</tbody>
</table>
More about the INR

- It is extremely important to maintain the INR value within the designated therapeutic range to avoid increased risk for clotting/embolism (when the INR is too low) **AND** to avoid increased risk of bleeding (when the INR is too high).

- Lab reports will indicate the PT/INR is **high**, when in fact the values fall **within the therapeutic range** for someone on anticoagulation therapy – **Nurses need to check the target range designated by the physician when evaluating lab reports.**
About Warfarin

- Warfarin can interact with a number of other medications and foods that may affect the efficacy of the medication.
- These interactions can either interfere with the action of Warfarin (lowering the INR and increasing the patient’s risk for clots) or can enhance the action of Warfarin (raising the INR and increasing the patient’s risk for bleeding).
- Any time a new medication is added or the diet changes for a patient, potential interactions with Warfarin must be evaluated. More frequent monitoring of the PT/INR may be warranted.
Top causes for sub-therapeutic INRs

- Increased Vitamin K in diet
- Diet Supplements
- Green Tea
- Rifampin
- Chewing Tobacco
- Coenzyme Q10
- St. John’s Wort
- Missed dose
Top causes for Super-Therapeutic (high) INRs

- Amiodarone
- Decreased Vitamin K in diet
- Antibiotics
- Diarrhea
- Congestive Heart Failure
- Licorice
- Cranberry Juice
- Statin medications
- Ginkgo Biloba
- Garlic
Any time a patient is prescribed Warfarin...

- The patient’s sticker should be amended to reflect use of anticoagulant
- The prescribing physician must designate a therapeutic range for the INR. This range should be recorded on the Kardex.
- Vitamin K will be available (in the pharmacy or the after hours cabinet) to be administered for extreme elevations of INR or in the case of spontaneous bleeding.
- Bleeding precautions will be listed on the Kardex and a Nursing Care Plan for the Nursing Diagnosis of “Altered Protection” will be in place.
Warfarin and Lab Monitoring

- Before Warfarin is initiated, check baseline PTT, INR, CBC/platelets.
- Dose of Warfarin is adjusted to achieve a therapeutic INR value within the target range.
- Prescribed laboratory schedule depends on stability of the INR within therapeutic range and any factors that might change the patient’s response to therapy (new medications, dietary changes, changes in health status, etc.)
- PT/INR results will usually be delivered to the unit the same day as the blood draw, but no longer than 24 hours. It is up to the RN to determine whether those results fall within the therapeutic range designated by the physician. If the results are outside the therapeutic range (either too low or too high), the results must be called to the physician for dosage adjustment.
Patients and families (if applicable) will be provided education, both written and verbal, about anticoagulation therapy, including:

- Benefits
- Reasons for prescribing the medication
- Dietary instructions
- Importance of follow-up monitoring
- Potential for adverse reactions and interactions
Nursing Assessment, Monitoring and Care

- RN will notify the physician of the baseline lab studies. This can be accomplished via the doctor’s communication book (for INRs within target range) or by phone (for INRs outside target range).

- LPN/RN will monitor ordered lab values and report results to the physician via the doctor’s communication book (for INRs within therapeutic range) or by phone (for INRs outside therapeutic range).
Nursing Assessment, Monitoring and Care

• Nurse will perform ongoing assessment each shift for signs and symptoms of bleeding (black stools, hematuria, nose bleeds, petecchiae or ecchymosis, oozing from needle punctures or around invasive devices, excessive bleeding of gums after brushing). RN will notify physician immediately if such signs are present.

• Nurse will document assessment results on the anticoagulation flow sheet (see next slide).
• An Anticoagulation Flow Sheet should be included in every patient’s chart who is prescribed anticoagulation therapy.

• Any abnormal findings should be charted in a progress note in the patient’s record that includes documentation of notification of the physician of the findings.
Nursing Assessment, Monitoring and Care

- Implement measures to protect from falls according to fall risk assessment.
- Perform ongoing assessment for signs/symptoms of DVT (if applicable) – color, sensation, temperature, tenderness and movement of extremities.
- Perform ongoing assessment for pulmonary embolism (if applicable) – sharp, stabbing chest pain affected by inspiration; coughing; tachypnea; hemoptysis; syncope; pallor/cyanosis; tachycardia; hypotension; desaturation on pulse oximetry; fever.
- RN will notify physician of development of signs or symptoms of the above.
Nursing Assessment, Monitoring and Care

Review with patient the symptoms to report to RN or LPN:

- Bleeding
- Excessive bruising
- Shortness of breath
- Dizziness
- Chest pain
- Bloody or black stool
- Blood in the urine
Nursing Assessment, Monitoring and Care

Review with patient activity limitations as appropriate:

– Avoid using sharp objects
– Avoid using a hard toothbrush
– Use extreme care when shaving
Nursing Assessment, Monitoring and Care

• Provide patient with education materials, including handout about warfarin therapy.
• Provide instruction about medication administration after discharge and the importance of continued monitoring.
• Verify that patient has a follow-up appointment for monitoring of anticoagulation treatment after discharge from the hospital.
Special Safety Precautions

Because of the high risk nature of Warfarin, the pharmacy will

• Send a count sheet with Warfarin tablets dispensed from the pharmacy that the nurse/QMA will use to track administration.

• Send a checklist with the first dispensing of Warfarin to the unit to alert nursing of the protocols for anticoagulation management.
Guidelines for Warfarin Management for super-therapeutic INR

The RN should be prepared to implement physician’s orders for patients with elevated INR values according to the following guidelines.
Guidelines for Warfarin Management for super-therapeutic INR

For INR > therapeutic range but < 5.0 with no significant bleeding:
- Lowering the dose or omitting a dose
- Monitoring more frequently
- Resuming therapy at an appropriately adjusted dose when the INR is at a therapeutic level
- If only minimally out of range, or associated with a transient causative factor, no dose reduction may be required.
Guidelines for Warfarin Management for super-therapeutic INR

For INR > 5.0 but < 9.0 and no significant bleeding:

– Omit next one or two doses
– Monitor more frequently
– Resume therapy at an appropriately adjusted dose when the INR is at a therapeutic level.

– If patient is at increased risk for bleeding, one dose of vitamin K (2.5 mg.) may be given orally
Guidelines for Warfarin Management for super-therapeutic INR

For INR > 9.0 and no significant bleeding:

- Hold warfarin therapy
- Administer vitamin K (2.5 to 5 mg.) orally
- It is expected that INR will be reduced substantially in 24-48 hours
- Monitor the INR more frequently
- Administer additional vitamin K if necessary
- Resume therapy when the INR is at therapeutic level at an appropriately adjusted dose
Guidelines for Warfarin Management for super-therapeutic INR

In patients with serious bleeding and elevated INR values, regardless of the magnitude of the elevation, the patient should be sent to the local hospital for evaluation and management, as IV infusion of vitamin K, along with fresh frozen plasma, prothrombin complex concentrate or recombinant factor VIIa is recommended.
REMEMBER!

**Anticoagulation Therapy** represents an increased risk to the patient that must be managed by all health care providers involved in the patient’s care.
You are almost finished...

You must complete the test that was sent to you by e-mail and send it to the Nursing Administration Office to receive credit for this inservice.

You will receive 0.5 hours of hospital credit hours for this inservice.