
**WARFARIN THERAPY**

- Please check one of the following:

  - Indication for Therapy: ____________
  - Target INR: ______

  1. Thromboembolism: 2.0 to 3.0
  2. Mechanical valve replacement: 2.5 to 3.5
  3. Other indication: ____________

- Discontinue IV heparin or low molecular weight heparin (dalteparin/enoxaparin) once INR is greater than or equal to 2 (greater than or equal to 2.5 for mechanical valve) for 2 consecutive days and an overlap with warfarin for at least 5 days.

Prescriber’s Signature: ____________  Printed Name: ____________


Appendix 2. Multiple-choice questions used to test knowledge of clinical pharmacy support assistants. INR = international normalized ratio. Copyright © 2011 Burnaby Hospital. Reproduced with permission.

1. Which of the following is NOT a risk factor for clotting?
   a. Damage to blood vessel
   b. Low electrolytes
   c. Decreased blood flow and circulation
   d. Patient has intrinsic hypercoagulable state

2. As the INR increases, the risk of clotting:
   a. Decreases
   b. Increases

3. Some risk factors for bleeding include the following EXCEPT:
   a. History of peptic ulcer disease
   b. Fever and infection
   c. Liver disease
   d. Increased levels of hemoglobin

4. An embolus is a clot that travels/stays ...in the blood vessel and often travels to the lungs/stomach/heart...resulting in a pulmonary embolism.

5. A sharp drop in O2% Sat, increase in respiratory rate, shortness of breath are all signs of:
   a. Pulmonary embolism
   b. Deep vein thrombosis
   c. Atrial fibrillation
   d. None of the above

6. Warfarin affects the metabolism of which vitamin to produce its effects?
   a. Vitamin C
   b. Vitamin A
   c. Vitamin K
   d. Vitamin E

7. Warfarin affects vitamin K by:
   a. Inhibiting enzymes that revert vitamin K from oxidized to reduced form
   b. Blocking absorption of vitamin K
   c. Depletes vitamin K storage in the body
   d. Enhances production of enzymes that degrade vitamin K

8. True or false: After the first oral dose of warfarin, a patient is effectively anti-coagulated in the same day.

9. True or false: For treatment of pulmonary embolism, some patients may require another anti-coagulation medication like dalteparin and the treatment course can safely overlap with warfarin.

10. Which of the following is false?
    a. Warfarin is mainly metabolised by CYP enzymes
    b. All drug interactions affect INR
    c. CYP2C9 enzyme induction results decreased warfarin levels and decreased INR
    d. Warfarin is highly bound to albumin

11. Patient WK has been taking warfarin prior to admission. Now warfarin protocol has been ordered for her to resume warfarin therapy. You need to find out which dose she was on, so the best source of information is:
    a. Pharmnet reconciliation
    b. Physician’s consultation notes on MAGIC
    c. Physician, call up the Doc
    d. Patient

12. We obtain information regarding the patient’s diet from:
    a. ______
    This information is important because diet can affect warfarin therapy by affecting:
    a. How much warfarin is absorbed
    b. How warfarin is removed from the body
    c. How much vitamin K is absorbed

13. When a patient has an infection, which of the following can increase their risk of bleeding:
    a. High grade fever
    b. Infection itself
    c. Antibiotics prescribed
    d. All of the above

14. Because of the onset of action and mechanism of warfarin, today’s INR is most likely reflective of:
    a. Today’s dose
    b. Yesterday’s dose
    c. The day before yesterday’s dose
    d. Tomorrow’s dose

15. When reporting to the pharmacist, we need to cover all of the following except:
    a. Patient’s name, ward #, age, gender
    b. All current medications and medical conditions
    c. Any signs of bleeding
    d. Any signs of complications
    e. Dose you would like to give and reason
    f. None of the above, they are all needed.

16. From previous question #15, what are some other information you would like to present to the pharmacist?