Appendix 1 (part 1 of 2): Preprinted orders for warfarin dosing protocol. Copyright © 2010 Burnaby Hospital. Reproduced with permission.

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DRUG & FOOD ALLERGIES

• Must do ☐ Optional, Physician please (✓) as appropriate. (Physician please cross out and initial orders not indicated).

Date ________________ Time ____________

- Discontinue all previous **WARFARIN** orders.
- Baseline laboratory data: INR, CBC, platelets.
- INR/CBC daily x 3 days, then as directed.
- No NSAIDS or **ACETYLSALICYLIC ACID** (unless specifically ordered by physician).
- No IM injections.
- **At any sign of hemorrhage and/or INR over 5, call physician/pharmacist STAT. See WARFARIN Reversal Recommendations on back of page.**
- Nursing: Please check - Is patient currently on **HEPARIN** IV? ☐ yes ☐ no
- Nursing: Please check - Was patient taking **WARFARIN** on admission?
  ☐ yes ☐ no If yes, indicate dose: ______________________________

WARFARIN THERAPY

- Please check one of the following:

Indication for Therapy	**Target INR**
____ thromboembolism	2.0 to 3.0
____ mechanical valve replacement	2.5 to 3.5
____ 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: ____________________________

Supplementary material for Man D, Mabasa VH. Feasibility of ASsisTed WARfarin Dosing by clinical pharmacy support assistants (FAST-WARD study). *Can J Hosp Pharm*. 2014;67(3):220-5.

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DRUG & FOOD ALLERGIES

• Must do ☐ Optional, Physician please (✓) as appropriate. (Physician please cross out and initial orders not indicated).

Date __________________ Time ______________

• Start **WARFARIN** Dosing Protocol. Daily **WARFARIN** dosing to be adjusted and co-written by pharmacy based on following monogram (modifications may be necessary for patient-specific dosing titration):

		Thromboembolic Treatment (deep vein thrombosis / pulmonary embolus) and Atrial Fibrillation	Thromboembolic Prophylaxis (post arthroplasty, fracture); Frail Elderly
	INR	Warfarin Dose (mg)	Warfarin Dose (mg)
Day 1	< 1.3	10	5
	1.3-1.5	5	2.5
	> 1.5	0	0
Day 2	< 1.3	10	5
	1.3-1.5	5	2.5
	> 1.5	0	0
Day 3	< 1.6	10	5
	1.6-1.8	7.5	4
	1.81 -2.1	5	2.5
	2.11-2.4	2.5	2
	2.41-2.7	1	1
	> 2.7	0	0
Day 4 +	< 1.8	10	5
	1.8-2.1	7.5	4
	2.11-2.4	5	2.5
	2.41 -2.5	2.5	2
	2.51 -2.7	1	1
	> 2.7	0	0

• **WARFARIN** patient teaching: prior to discharge by pharmacy.

Prescriber's Signature: ______________________________ Printed Name: ____________________________

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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 intrinisic 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. Pharmanet 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:__________
    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?

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