

Warfarin Dosage and INR Chart

Patient Label

Goal INR: _____ Indication for Warfarin: _____

INR 2-3: Prophylaxis of venous thrombosis (high risk surgery), treatment of venous thrombosis or PE, Prevention of systemic embolism (Tissue heart valves, AMI, Valvular heart disease, AF)

INR 2.5-3.5: Mechanical prosthetic valves (high risk), bileaflet mechanical valve in aortic position

Age: _____ Height: _____ Weight: _____

Recommendations for Warfarin Titration and Monitoring:

- Initiate warfarin with the dose that is expected to be required for maintenance therapy (7.5 mg if < 50 years old, 5 mg if ≥ 50 years). Loading doses are not recommended. If larger doses are used, 10 mg, PTTs should be therapeutic if receiving heparin or the patient should be receiving enoxaparin.
- Consider the patient's age, weight, nutritional status, and concurrent disease states and medications when choosing a maintenance dose of warfarin. The following factors are associated with increased warfarin sensitivity: age > 65 years, female gender, low body weight, poor nutritional status, low vitamin K intake, and concurrent disease states (liver disease, hypermetabolic states, hyperthyroidism).
- Draw daily INR's for the first 5-7 days of therapy and then two-three times a week during initiation.
- If rapid anticoagulation is required enoxaparin or heparin should be overlapped with warfarin for at least the first four days. Discontinue enoxaparin/heparin when the INR is therapeutic on two consecutive measurements.
- Dosage adjustments of warfarin are best made reflecting the 36-48 hour delay in peak response of the INR to a previous dose of warfarin. Dosage adjustments are not recommended any more frequent than every 2-3 days. Warfarin displays non-linear kinetics, small dosage adjustments (1-2.5 mg) are recommended. The patient's dose response curve for several days should be reviewed.

On Coumadin at Home: Yes / No / Unknown Home Dose and schedule Date of last dose

Nursing: Please complete this section.	Date						
	INR						
	Warfarin Dose (mg)						
	Vitamin K Dose (mg) & Route						
	Initials						

Interacting Medications of major clinical significance*, platelet aggregation inhibitors, and anticoagulants

Pharmacists: Please complete this section. Only include drug interactions of major clinical significance.	Drug	Dose/Route/Frequency	Start Date	Stop Date	Notes	Initials	

*Commonly used interacting medications are listed on the reverse side.

Management of Nontherapeutic INRs: Chest Recommendations 2001

INR	Symptoms	Recommendation
Above therapeutic but < 5	No Bleeding	Lower the dose or omit a dose and resume therapy with lower dose when INR therapeutic.
INR > 5 but < 9	No Bleeding	Omit next one or two doses, monitor the INR more frequently, and resume therapy with lower dose when INR therapeutic. If risk of bleeding, omit the next warfarin dose and give 1-2.5 mg vitamin K orally.
INR > 9	No Bleeding	Give 3-5 mg vitamin K orally; expect reduction of INR in 24-48 h; monitor INR more frequently; and repeat vitamin K if necessary.
INR > 20	Serious Bleeding	Give 10 mg vitamin K by slow IV infusion, supplemented with fresh frozen plasma or prothrombin complex concentrate depending on the urgency of the situation. Vitamin K can be repeated every 12 h.
INR > 20	Life-threatening Bleeding	Give prothrombin complex concentrate supplemented with 10 mg vitamin K by slow IV infusion. Repeat as necessary.

Keep at the front of physician orders section of the chart

Commonly Used Medications with Major Interactions with Warfarin*		
Medication	Interaction	Action to be taken
Amiodarone	Increase INR	Give ½ the usual dose of warfarin
Anti-thyroid drugs	Decrease INR	Monitor INR frequently until euthyroid
Bactrim	Increase INR	Combination not recommended
Barbiturates	Decrease INR	Avoid concomitant use
Carbamazepine	Decrease INR	Monitor INR frequently
Cimetidine	Increase INR	Monitor INR frequently
Ciprofloxacin/levofloxacin	Increase INR	Monitor INR frequently
Fluconazole	Increase INR	Monitor INR frequently
Fluorouracil	Increase INR	Monitor INR frequently
Macrolides	Increase INR	Monitor INR frequently
Metronidazole	Increase INR	Monitor INR frequently
Rifampin / Rifabutin	Decrease INR	Combination not recommended

Only interactions of major clinical significance are to be recorded on the front of this form.

Procedure:

1. The Warfarin Dosing and INR Chart will be placed at the front of the physician orders section of the chart and will be moved to the front of the progress notes each day.
 2. A Warfarin-Monitoring sticker will be placed on the front of the chart.
 3. Nursing staff will place the form on the chart and fill out all portions of the Warfarin Dosing and INR Chart with the exception of drug interactions.
 - A. The night shift nurse will record the INR if it is available.
 - B. The nurse administering the warfarin will record the dose administered and INR if it is not already recorded.
 4. The cardiopulmonary pharmacist or designee will review all patients daily.
 - A. Ensure a Warfarin Dosing and INR Chart is in the physician orders section of the chart.
 - B. Ensure a sticker is on front of the chart.
 - C. Ensure all elements of the form are complete.
 - D. Ensure that the patient has a routine INR order.
 - E. Review the patient's profile for drug interactions of major clinical significance, which will be noted on the monitoring form.
 - F. Review the chart, INR and warfarin dosing history for trends, and appropriateness of the current warfarin order. The physician will be contacted as needed.
 - G. Fill in the indication, if available from the patient's medical record.
 5. The Adverse Drug Event Form will be completed for all patients requiring vitamin K or experiencing a negative outcome. Information from this form will be placed in a database, which will be used to track outcomes and identify opportunities for improvements.
 6. All patients not on a fixed daily dose of coumadin will have an order entered for warfarin daily dose (PCO code=WDD). This will help to ensure physicians will order coumadin daily and help in report generation for patients currently on warfarin.
- A Pyxis report of all patients with warfarin daily orders will be generated each day for the pharmacists use.