OUTPATIENT ANTICOAGULATION FLOWSHEET

Patient's name: _____ Date of birth: _____/_____/_____ Medical record #: _____

Indication for anticoagulation (check one): ☐ Atrial fibrillation ☐ Deep vein thrombosis ☐ Pulmonary embolism ☐ Mechanical valve ☐ Cerebrovascular accident ☐ Other

Target International Normalized Ratio (INR)*: ☐ 2.0 to 3.0 ☐ 2.5 to 3.5 ☐ Other: _____

Start date: _____/_____/_____ Therapy duration: ☐ 3 months ☐ 6 months ☐ 1 year ☐ Indefinite ☐ Other: _____

Date	Current dose	INR	Complications	New dose	Next INR	Initials

DOSAGE ADJUSTMENT ALGORITHMS

For target INR of 2.0 to 3.0, no bleeding:*

INR	< 1.5	1.5 to 1.9	2.0 to 3.0	3.1 to 3.9	4.0 to 4.9	≥ 5.0
Adjustment	Increase dose 10 to 20%; consider extra dose	Increase dose 5 to 10%†	No change	Decrease dose 5 to 10%†	Hold for 0 to 1 day then decrease dose 10%	See reverse side.
Next INR	4 to 8 days	7 to 14 days	No. of consecutive in-range INRs x 1 wk (max: 4 wks)‡	7 to 14 days	4 to 8 days	See reverse side.

For target INR of 2.5 to 3.5, no bleeding:*

INR	< 1.5	1.5 to 2.4	2.5 to 3.5	3.6 to 4.5	4.5 to 6.0	> 6.0
Adjustment	Increase dose 10 to 20%; consider extra dose	Increase dose 5 to 10%§	No change	Decrease dose 5 to 10%; consider holding one dose§	Hold for 1 to 2 days then decrease dose 5 to 15%	See reverse side.
Next INR	4 to 8 days	7 to 14 days	No. of consecutive in-range INRs x 1 wk (max: 4 wks)‡	7 to 14 days	2 to 8 days	See reverse side.

* — See reverse side for further guidance.
† — If INR is 1.8 to 1.9 or 3.1 to 3.2, consider no change with repeat INR in seven to 14 days.
‡ — For example, if a patient has had three consecutive in-range INR values, recheck in 3 weeks.
§ — If INR is 2.3 to 2.4 or 3.6 to 3.7, consider no change with repeat INR in seven to 14 days.

OUTPATIENT ANTICOAGULATION FLOWSHEET

ANTICOAGULATION DECISION SUPPORT

Indication	Target INR	Duration of therapy	SORT
DVT or PE[1]			
First episode, transient risk factor	2.0 to 3.0	3 months	A
First episode, idiopathic DVT	2.0 to 3.0	6 to 12 months*	A
First episode, patient with cancer	2.0 to 3.0	LMWH for 3 to 6 months, then warfarin (Coumadin); treat until cancer is resolved*	A
First episode and single risk factor†	2.0 to 3.0	6 to 12 months*	A
First episode, antiphospholipid antibodies or at least two risk factors†	2.0 to 3.0	12 months*	B
Recurrent DVT	2.0 to 3.0	Indefinitely	B
Atrial fibrillation[2]	*2.0 to 3.0*	*Indefinitely*‡	A
Valvular disease[3]			
Rheumatic mitral valve and atrial fibrillation or previous emboli	2.0 to 3.0	Indefinitely	B
Rheumatic mitral valve disease, normal sinus rhythm, and left atrial diameter > 5.5 cm	2.0 to 3.0	Indefinitely	B
Aortic St. Jude Medical bileaflet valve	2.0 to 3.0	Indefinitely	A
Mitral tilting disk valves and bileaflet mechanical valves	2.5 to 3.5	Indefinitely	B
Aortic CarboMedics bileaflet or Medtronic Hall tilting disk valves, normal sinus rhythm, and no LAE	2.0 to 3.0	Indefinitely	B
Mechanical valves with risk factors (atrial fibrillation, myocardial infarction, LAE, endocardial damage, low ejection fraction)	2.5 to 3.5	Indefinitely,* low-dose aspirin	B
Caged ball or disk valve	2.5 to 3.5	Indefinitely,* low-dose aspirin	B
Mechanical valve with breakthrough embolism despite INR 2.0 to 3.0	2.5 to 3.5	Indefinitely,* low-dose aspirin	B
Bioprosthetic valve (mitral)	2.0 to 3.0	3 months after placement	B
Bioprosthetic valve (aortic)	2.0 to 3.0	3 months of warfarin or aspirin	B

MANAGEMENT OF SIGNIFICANTLY ELEVATED INR WITH OR WITHOUT BLEEDING[4]

INR 5.0 to 8.9, no significant bleeding: Omit 1 to 2 doses; reduce dose 10 to 20 percent; monitor frequently. Alternately consider vitamin K1 1 to 2.5 mg orally.

INR ≥ 9.0, no significant bleeding: Hold warfarin therapy; give vitamin K1 5 to 10 mg orally; monitor frequently. Resume at lower dose when INR is therapeutic.

Serious bleeding, any INR: Hold warfarin; give vitamin K1 10 mg slow intravenous (IV) plus fresh plasma or prothrombin complex concentrate, depending on urgency; repeat vitamin K1 every 12 hours as needed.

Life-threatening bleeding, any INR: Hold warfarin; give prothrombin complex concentrate (or recombinant factor VIIa as an alternate) supplemented with vitamin K1 (10 mg slow IV); repeat as needed.

INR = International Normalized Ratio; SORT = Strength-of-Recommendation Taxonomy; DVT = deep vein thrombosis; PE = pulmonary embolism; LMWH = low-molecular-weight heparin; LAE = left atrial enlargement; A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, opinion, or case series.

* — Consider indefinite therapy for selected patients.

† — Deficiency of antithrombin III, protein C, or protein S; prothrombotic gene mutation such as V Leiden or prothrombin 20210; homocystinemia, or factor VIII levels above the 90th percentile of normal; or persistent residual thrombosis on repeated testing with compression ultrasonography.

‡ — Not indicated in patients younger than 65 years who do not have risk factors (i.e., heart failure, hypertension, previous ischemic stroke or transient ischemic attack, or diabetes mellitus).

1. Buller HR, Agnelli G, Hull RD, Hyers TM, Prins MH, Raskob GE. Antithrombotic therapy for venous thromboembolic disease: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy [published correction appears in *Chest* 2005;127:416]. *Chest* 2004;126(3 suppl):401S-28S.
2. Singer DE, Albers GW, Dalen JE, Go AS, Halperin JL, Manning WJ. Antithrombotic therapy in atrial fibrillation: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004;126(3 suppl):429S-56S.
3. Salem DN, Stein PD, Al-Ahmad A, Bussey HI, Horstkotte D, Miller N, et al. Antithrombotic therapy in valvular heart disease – native and prosthetic: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy. *Chest* 2004;126(3 suppl):457S-82S.
4. Ansell J, Hirsh J, Poller L, Bussey H, Jacobson A, Hylek E. The pharmacology and management of the vitamin K antagonists: the Seventh ACCP Conference on Antithrombotic and Thrombolytic Therapy [published correction appears in *Chest* 2005;127:415-6]. *Chest* 2004;126(3 suppl):204S-33S.

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