

CARE GUIDE for *Atrial Fibrillation (A Fib)*

Suggested Guidelines	Process	Important Measurements and Values	Intervention	Follow-up
New Onset A Fib (1:3.7)	<ul style="list-style-type: none"> Assess for duration of symptoms (if present) 	<ul style="list-style-type: none"> If duration \geq 48 hrs or is unknown, anticoagulant, i.e. warfarin(Coumadin)is recommended before and after electrical or pharmacologic cardioversion 	<ul style="list-style-type: none"> Refer for cardioversion Initiate anticoagulation therapy with a target INR of 2.0 to 3.0 for at least 3 consecutive weeks prior to cardioversion and a target INR of 2.0 to 3.0 for 4 weeks following cardioversion (unless the long term risk of bleeding exceeds the risk of thromboemboli) Thyroid function test may be indicated in first episode of A Fib, in patients with difficult rate control, or in patients with unexpected recurrence after cardioversion 	<ul style="list-style-type: none"> Coordinate care with cardiologist/ electrophysiologist (EP) specialists <p>NOTE: Catheter ablation is reasonable to treat symptomatic persistent A Fib and symptomatic paroxysmal A Fib in patients with significant left atrial dilation or with significant LV dysfunction.</p>
Rate Control: (1:3)	<ul style="list-style-type: none"> Monitor heart rate at rest and with exercise 	<ul style="list-style-type: none"> No standard method for assessment of heart rate control has been established to guide management of patients with A Fib. Criteria for rate control vary with patient age but usually involve achieving ventricular rates of: <ul style="list-style-type: none"> 60-80 beats per minute at rest, 90-115 beats per minute during moderate exercise, 	<ul style="list-style-type: none"> Beta-blockers are recommended for rate control during rest and with exercise, if tolerated If beta-blockers are contraindicated, non-dihydropyridine calcium channel blockers (e.g., Norvasc, Plendil, Procardia) or digitalis are recommended for rate control, if tolerated For resistant cases, may consider the possible use of amiodarone or a newer agent dronedarone (Mutaq, Sanofi-Aventis) under specialty consultation. 	<ul style="list-style-type: none"> Adjust medication as needed Monitor medication side effects

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			<p>Dronedarone should not be administered to patients with class IV heart failure or patients who have had an episode of decompensate heart failure in the past 4 weeks, especially if they have depressed left ventricular function (left ventricular ejection fraction $\leq 35\%$)</p>	
<p>Anti-thrombotic Selection Treatment Decisions ^(1;2;3,8,9)</p>	<ul style="list-style-type: none"> Assess patient risk for stroke 	<ul style="list-style-type: none"> High risk factors: <ul style="list-style-type: none"> ➤ History of stroke, TIA or embolism ➤ Prosthetic heart valve ➤ Mitral stenosis Moderate risk factors: <ul style="list-style-type: none"> ➤ ≥ 75 yrs of age ➤ Hypertension ➤ Heart failure ➤ LV Ejection Fraction (LVEF) $\leq 35\%$ ➤ Diabetes 	<ul style="list-style-type: none"> Any high risk factor or > 1 moderate risk factor: warfarin (Coumadin) (unless contraindicated) Moderate risk: warfarin (Coumadin) or aspirin 75-325 mg daily. <ul style="list-style-type: none"> ➤ Warfarin (Coumadin) is suggested in intermediate risk patients No risk factors: Aspirin 75-325 mg daily NOTE: Clopidogrel and ASA may be considered for patients in whom anticoagulation with warfarin is unsuitable. NOTE: Dabigatran (Pradaxa, Boehringer Ingelheim); its twice daily oral dosing may be an alternative to warfarin therapy, except in patients with valvular heart disease 	<ul style="list-style-type: none"> Monitor patient for changes in risk level Monitor INR if on warfarin (Coumadin) therapy Monitor patient compliance with aspirin therapy Warfarin (Coumadin) therapy will be long term in those with two or more risk factors
<p>Anti-coagulation Management ^(2;3,4,5,6)</p>	<ul style="list-style-type: none"> Assess the adequacy of anti-coagulation 	<ul style="list-style-type: none"> Target INR for patients on warfarin is 2.5 (range 2-3) Patients with mechanical heart valves: choice of anti-coagulation agent with or without anti-platelet should be based on the type of mechanical heart valve prosthesis, location of the valve(s) replaced, presence of additional risk factors for thromboembolism, systemic embolism despite therapeutic INR, and risk of bleeding. See recommendations at: http://chestjournal.chestpubs.org/content/133/6_suppl/593 S.full at least 	<ul style="list-style-type: none"> INR should be monitored weekly during initiation of therapy Monitoring of INR should be at least monthly in stable patients 	<ul style="list-style-type: none"> Adjust warfarin (Coumadin) dose as needed Many medications, and dietary supplements and foods rich in Vitamin K, interfere with warfarin (Coumadin)

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		<ul style="list-style-type: none"> Patients with bioprosthetic heart valves: choice of anti-coagulation agent with or without anti-platelet should be based on heart rhythm, location of the valve(s) replaced, presence of additional risk factors for thromboembolism, history of systemic embolism, and risk of bleeding. See recommendations at: http://chestjournal.chestpubs.org/content/133/6_suppl/593S.full Given the various differences in anticoagulant recommendations based on type of valve and other factors, the reader is referred to the source reference. 		metabolism. Check INR in 3-4 days after medication changes especially if interaction is unknown
Rhythm Control in patients with A Fib < 48 hrs ^(1,3)	<ul style="list-style-type: none"> Ensure duration of A Fib is < 48 hrs particularly in those with high risk factors 	<ul style="list-style-type: none"> A Fib of less than 48 hours has a cardioversion success rate of 60-90% 	<ul style="list-style-type: none"> Pharmacologic or electrical cardioversion Cardioversion maybe performed without anticoagulation; however, in patients without contraindications, IV heparin or low molecular weight heparin (LMWH) is suggested 	<ul style="list-style-type: none"> Post-cardioversion anticoagulation is based on the patient's risk status and on whether the patient has had > 1 episode of A Fib
Rhythm Control in patients with A Fib of \geq 48 hrs or of unknown duration ^(1,3)	<ul style="list-style-type: none"> Pharmacologic or electrical cardioversion may be appropriate in select patients 	<ul style="list-style-type: none"> For patients with AF of \geq 48 duration, or when the duration of AF is unknown, anticoagulation (INR 2.0 to 3.0) is recommended for at least 3 weeks prior to and 4 weeks after cardioversion, regardless of the method (electrical or pharmacological) used to restore sinus rhythm. 	<ul style="list-style-type: none"> A screening multiplane transesophageal echocardiography (TEE) is recommended after appropriate anticoagulation and prior to cardioversion If thrombus is seen, cardioversion should be postponed and anticoagulation continued indefinitely Obtain TEE before cardioversion attempt 	<ul style="list-style-type: none"> Continue anti-coagulation for at least 4 wks post successful cardioversion for A Fib \geq 48 hrs or unknown duration
Patient Education General ⁽¹⁾		<ul style="list-style-type: none"> Patient education should include: <ul style="list-style-type: none"> ➢ Risks of A Fib ➢ Symptoms of A Fib and stroke ➢ How to take pulse ➢ Medication side effects and drug interactions ➢ When to call MD or go to hospital 	<ul style="list-style-type: none"> Educate and document at each and every visit Refer patients to: <ul style="list-style-type: none"> ➢ www.americanheart.org search under atrial fibrillation 	<ul style="list-style-type: none"> On going patient education

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Patient Education for Patients on warfarin (Coumadin) ^(1;7)		<ul style="list-style-type: none"> • Patient education should include: <ul style="list-style-type: none"> ➢ Drug, food, herbal interactions with warfarin (Coumadin) ➢ Emphasize consistent dietary intake of key foods (especially those with Vit K) ➢ Drug timing ➢ INR testing and targets ➢ Avoidance of aspirin, NSAIDS ➢ Exercise safety ➢ When to call MD or go to hospital ➢ Inform health care providers when taking warfarin and preparing for invasive procedures, surgery or dental work 	<ul style="list-style-type: none"> • Educate and document at each and every visit • Refer patients to: <ul style="list-style-type: none"> ➢ www.americanheart.org search under warfarin (Coumadin) 	<ul style="list-style-type: none"> • On going patient education

RISK FACTORS FOR BLEEDING FOR SHORT-TERM USE OF WARFARIN ⁽¹⁾
Active significant bleeding
Craniotomy within two weeks
History of intracerebral hemorrhage within two weeks
Active intracranial lesions/neoplasms/internal monitoring devices
Vascular access/biopsy procedure sites inaccessible to hemostatic control performed within 24 hours
Bacterial endocarditis, proliferative retinopathy

References

<p>1. Institute for Clinical Systems Improvement. ICSI: Health Care Guideline: Atrial Fibrillation. Institute for Clinical Systems Improvement (seventh edition, released 10/2008). http://www.icsi.org/atrial_fibrillation_guideline/atrial_fibrillation_guideline_38782.html</p>	<p>2. Singer DE, Albers GW, Dalen JE, Fang MC, Go AS, Halperin JL et al. Antithrombotic Therapy in Atrial Fibrillation: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Chest. 2008;133:546S-592. http://www.chestjournal.org/content/133/6_suppl/546S.full.pdf</p>
<p>3. Fuster V, Ryden LE, Cannom DS, Crijns HF, Curtis AB, Ellenbogen KA et al. 2011 ACCF/AHA/HRS Focused Updates Incorporated Into the ACC/AHA/ESC 2006 Guidelines for the Management of Patients With Atrial Fibrillation: A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines http://circ.ahajournals.org/content/123/10/e269.full.pdf</p>	<p>4. Snow V, Weiss KB, LeFevre M, McNamara R, Bass E, Green LA et al. Management of newly detected atrial fibrillation: a clinical practice guideline from the American Academy of Family Physicians and the American College of Physicians. Ann Intern Med. 2003;139:1009-17. http://www.annals.org/content/139/12/1009.full.pdf+html?sid=c25ad6cb-8e4a-401c-a3de-358d302b239a</p>
<p>5. Ansell J, Hirsh J, Hylek E, Jacobson A, Crowther M, Palareti G. Pharmacology and Management of the Vitamin K Antagonists: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Chest. 2008;133:160S-198. http://chestjournal.chestpubs.org/content/133/6_suppl/160S.full.pdf+html?sid=5712dc5c-730a-4493-87e6-841535d4c9ad</p>	<p>6. Salem DN, O'Gara PT, Madias C, Pauker SG. Valvular and Structural Heart Disease: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). Chest. 2008;133:593S-629. http://chestjournal.chestpubs.org/content/133/6_suppl/593S.full.pdf+html?sid=117e7a2b-7000-4f9b-90ca-2ebc1b635fbe</p>
<p>7. Institute for Clinical Systems Improvement. ICSI: Health Care Guideline: Antithrombotic Therapy Supplement (Tenth edition/April 2011). http://www.icsi.org/antithrombotic_therapy_supplement_guideline_14045/antithrombotic_therapy_supplement_guideline.html</p>	<p>8. FDA; U.S. Food and Drug Administration www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/2010/ucm230241.htm - 27k - 2010-10-19</p>
<p>9. The New England Journal of Medicine: Effect of Clopidogrel Added to Aspirin in Patients with Atrial Fibrillation http://www.nejm.org/doi/full/10.1056/NEJMoa0901301</p>	