# CARE GUIDE for Atrial Fibrillation (A Fib)

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| New Onset A Fib (1,3,7) | • Assess for duration of symptoms (if present) | • If duration ≥ 48 hours or is unknown, anticoagulation therapy is recommended before and after electrical or pharmacologic cardioversion, or consider Trans-Esophageal Echo of the left ventricle (TEE/LV) if the patient is unstable | • Refer for cardioversion:  
  - Initiate anticoagulation therapy (adjusted-dose vitamin K antagonist [VKA] or low-molecular weight heparin at full venous thromboembolism treatment doses, or Factor Xa inhibitors) with a target International Normalized Ratio (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)  
  - Factor Xa inhibitors include dabigatran (Pradaxa), rivaroxaban (Xarelto) and apixaban (Eliquis)  
  - Thyroid, renal and hepatic function tests may be indicated for a first episode of A Fib when the ventricular rate is difficult to control, or in patients with unexpected recurrence after cardioversion | • Coordinate care with cardiologist/electrophysiologist (EP) specialists  
  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 left ventricular (LV) dysfunction |
| Rate Control: (1,2,3) | • Monitor heart rate at rest and with exercise | • No standard method for assessment of heart rate control has been established to guide management of patients with A Fib  
  - Treatment to achieve strict rate control of heart rate (<80 bpm at rest or <110 bpm during a 6-minute walk test) is not beneficial compared to achieving a resting heart rate <110 bpm in patients with persistent afib who have stable ventricular function (LVEF ≥40%) and no or acceptable symptoms related to arrhythmia, though uncontrolled tachycardia may over time be associated with a reversible decline in ventricular performance jsonObj(1,19) | • 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., Diltiazem, Verapamil) or digitalis are recommended for rate control, if tolerated  
  • For resistant cases, may consider the use of amiodarone or dronedarone under specialty consultation. Dronedarone should not be administered to patients with class IV heart failure or patients who have had an episode of decompensated heart failure | • Adjust medication as needed  
  • Monitor medication side effects |
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|                      | • Assess patient risk for stroke | • High risk factors:  
  ➢ History of stroke, Transient Ischemic Attack (TIA) or embolism  
  ➢ Implanted metal prosthetic heart valve  
  ➢ Mitral stenosis  
  • Moderate risk factors:  
  ➢ ≥75 years of age  
  ➢ Hypertension  
  ➢ Heart failure  
  ➢ LV Ejection Fraction (LVEF) ≤ 35%  
  ➢ Diabetes  
  ➢ Creatinine Clearance < 30  
  • The selection of the antithrombotic agent should be based upon the absolute risks of stroke and bleeding and the relative risk and benefit for a given patient \(^3\) | • High risk factor (e.g., CHADS\(_2\) score ≥ 2 available at http://clincalc.com/Cardiology/Stroke/CHADS.aspx or CHADS2-VASC > 4, available at http://clincalc.com/Cardiology/Stroke/CHADS2-VASC.aspx) or > 1 moderate risk factor: oral anticoagulation\(^*\) is recommended  
• Moderate risk (e.g., CHADS\(_2\) score = 1): oral anticoagulation\(^*\) rather than aspirin (ASA) or combination therapy with aspirin and clopidogrel is suggested  
• Low risk factors (CHADS\(_2\) score = 0): No antithrombotic therapy is suggested. For patients who do choose antithrombotic therapy, aspirin (ASA) 325 mg daily rather than oral anticoagulation or combination therapy with aspirin and clopidogrel is suggested\(^1\)  
• Antithrombotic treatment decisions (VKA vs. non-VKA) should take into consideration patient values and preferences, bleeding risk and the presence of non-CHADS\(_2\) stroke risk factors | • 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 |

\(^*\): Antithrombotic Therapy and Prevention of Thrombosis, 9\(^{\text{th}}\) ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines Chest. 2012 states: "Where we recommend or suggest in favor of oral anticoagulation, we suggest dabigatran 150 mg twice daily rather than adjusted-dose vitamin K antagonist therapy." Dabigatran is contraindicated in patients with valvular heart disease and in patients with severe renal
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| Anti-coagulation Management<sup>2,3,4,5,6,7,10</sup> | • Assess the adequacy of anti-coagulation | • Target INR for patients on warfarin is 2.5 (range 2.0-3.0)  
• Given the various differences in anticoagulant recommendations based on type of valve and other factors, the reader is referred to the source reference  
• 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://journal.publications.chestnet.org/data/Journals/CHEST/22073/593S.pdf  
• 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://journal.publications.chestnet.org/data/Journals/CHEST/22073/593S.pdf | • INR should be monitored at least weekly during initiation of warfarin (Coumadin) therapy  
• For patients with stable INR’s, monitor INR monthly  
• For patients with previously stable INR’s who have a single out-of-range INR of ≤0.5 below or above therapeutic range, it is recommended that current dose of VKA be continued and INR retested within 1-2 weeks  
• For patients with stable therapeutic INR’s and a single sub-therapeutic INR value, routine administration of heparin is not recommended | • Adjust warfarin (Coumadin) dose as needed  
• Extensive warfarin education. Many medications, dietary supplements and foods rich in Vitamin K, interfere with warfarin (Coumadin) metabolism.  
• Check INR in 3-4 days after medication changes, especially if interaction is unknown |
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<td>Rhythm Control in patients with A Fib &lt; 48 hours (1,3)</td>
<td>• Ensure duration of A Fib is &lt; 48 hours, particularly in those with high risk factors</td>
<td>• A Fib of less than 48 hours has a cardioversion success rate of 60-90%  • &quot;In patients with A Fib of less than 48 hour duration associated with hemodynamic instability (angina pectoris, myocardial infarction, shock, or pulmonary edema), cardioversion should be performed immediately without delay for prior initiation of anticoagulation.&quot; (3)</td>
<td>• Pharmacologic or electrical cardioversion  • Cardioversion may be performed without anticoagulation; however, in patients without contraindications, IV heparin is suggested</td>
<td>• Post-cardioversion anticoagulation is based on the patient’s risk status and on whether the patient has had &gt; 1 episode of A Fib</td>
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<td>Rhythm Control in patients with A Fib of ≥ 48 hours or of unknown duration (1,3)</td>
<td>• Pharmacologic or electrical cardioversion may be appropriate in select patients</td>
<td>• &quot;For patients with A Fib of ≥ 48 duration, or when the duration of A Fib 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,&quot; (3)</td>
<td>• 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</td>
<td>• Continue anticoagulation for at least 4 weeks post successful cardioversion for A Fib ≥ 48 hours or unknown duration</td>
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<td>Patient Education General (1,13)</td>
<td>• Patient education should include:  ➢ 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</td>
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<td>Patient Education for Patients on warfarin (Coumadin) (1,7)</td>
<td>• Patient education should include:  ➢ Drug, food, herbal interactions with warfarin (Coumadin)  ➢ Emphasize consistent dietary intake of key foods (especially those with Vitamin K)  ➢ Drug timing  ➢ INR testing and targets  ➢ Avoidance of aspirin, NSAIDS  ➢ Exercise safety  ➢ When to call MD or go to hospital  ➢ Importance of minimizing trauma risk associated with activities that place patients at high risk for injury  ➢ MedicAlert® bracelet/necklace and warfarin ID card  ➢ Inform health care providers when taking</td>
<td>• Educate and document education provided at each and every visit  • Refer patients to:  ➢ <a href="http://www.americanheart.org">www.americanheart.org</a> (search under atrial fibrillation)</td>
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| Tobacco Use (8,12,14) | • Smoking cessation  
• No exposure to environmental tobacco smoke at work, home and public places | • Tobacco use patterns  
• Prior attempts to quit  
• Readiness assessment  
• Combination therapy with counseling and medications is more effective than either component alone  
• Use of e-Cigarettes | Think: 5 As  
• Ask about smoking  
• Advise to quit  
• Assess willingness to quit  
• Assist user to quit (i.e., refer to smoking cessation program and consider pharmacotherapy)  
• Arrange follow-up Pharmacotherapy adjuvants  
• Nicotine replacement  
• Anti-depressants  
• Varenicline  
• eCigarettes  
• Safety and Effectiveness not assessed by the FDA  
• Not enough information known about potential risks  
• Many FDA-approved medications shown to be safe and effective in helping quit smoking | Call on quit date or within 72 hours to boost self-efficacy  
• Assess each visit: smoking status, weight gain, nicotine withdrawal symptoms |
| Immunizations (4) | • Pneumococcal vaccination  
• Influenza vaccination | • Document each patient has had a vaccination  
• Document each patient has had a vaccination | Pneumonia vaccine to all patients with chronic cardiovascular disease once before age 65, with a booster given to those who are age 65 and older if at least 5 years have passed since their previous vaccine  
• Influenza vaccine to all patients yearly | As indicated  
• Yearly |
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| Depression Screening (15,16)                 | • Screen for presence of depression                                      | • Validated depression screening tool such as the PHQ-2 or PHQ-9                                 | • Administer treatment and/or refer patients who meet criteria for depression to a mental health specialist | • Screening is suggested at subsequent visits  
• Evaluate response to depression treatment with three follow-up contacts in 12 weeks and adjust medication as indicated and/or confer with mental health specialist. |

### Reference List


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