UW Medicine

From *2019 AHA/ACC/HRS focused update of the 2014 AHA/ACC/HRS guideline for the management of for the management of patients with atrial fibrillation: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. J Am Coll Cardiol. 2019; 74(1):104-132.*
Antithrombotic Therapy and Prevention of Thrombosis, 9th Edition, American College of Chest Physicians Evidence Based Clinical Practice Guidelines. Chest. 2012; 141(suppl 2):1-801.
and *Antithrombotic Therapy for VTE Disease: CHEST Guideline and Expert Panel Report. Chest. 2016; 149(2):315-352.*

INDICATION	RECOMMENDATION	DURATION	COMMENT
ATRIAL FIBRILLATION			
CHA_2DS_2-VASc ≥ 2 (men) CHA_2DS_2-VASc ≥ 3 (women)	DOAC[a] or Warfarin (INR 2-3)	chronic	**See AF Stroke Prevention Guidelines Summary below** DOAC recommended over warfarin
CHA_2DS_2-VASc = 1 (men) CHA_2DS_2-VASc = 2 (women)	Consider DOAC or Warfarin (INR 2-3)	chronic	
CHA_2DS_2-VASc = 0 (men) CHA_2DS_2-VASc = 1 (women)	No antithrombotic therapy	n/a	
With moderate-severe mitral stenosis	Warfarin (INR 2-3)	chronic	
Pre-cardioversion (AF≥ 48 hrs or duration unknown)	DOAC or Warfarin (INR 2-3)	≥ 3 weeks	
Post-cardioversion (in NSR)	DOAC or Warfarin (INR 2-3)	≥ 4 weeks	
LEFT VENTRICULAR DYSFUNCTION			
No CAD/no LV thrombus	No antithrombotic therapy		Warfarin (INR 2-3) considered for some patients
No CAD/+ LV thrombus	Warfarin (INR 2-3)	≥ 3 months	
PERIPHERAL ATERIAL DISEASE			
Asymptomatic disease	ASA 81mg daily	chronic	
Symptomatic disease	ASA 81mg or clopidogrel	chronic	Do not use DAPT (or SAPT if on warfarin for another reason)
s/p angioplasty +/- stenting	ASA 81mg or clopidogrel	chronic	Do not use DAPT
Asymptomatic carotid stenosis	ASA 81mg daily	chronic	
Symptomatic carotid stenosis	Antiplatelet therapy	chronic	Clopidogrel 75mg or ASA/dipyridamole over ASA 81mg
THROMBOEMBOLISM (UE DVT/LE DVT/PE)			**Warfarin with concurrent UFH/LMWH/fondaparinux for at least 5 days and until INR>2** **With compression stockings as needed for symptomatic management**
Provoked	DOAC or Warfarin (INR 2-3)	3 months	DOAC recommended over warfarin
Unprovoked/first event			
Low/moderate bleeding risk	DOAC or Warfarin (INR 2-3)	≥ 3 months	DOAC recommended over warfarin; see UW Medicine *Recommendations for Duration of Anticoagulant Therapy for VTE*
High bleeding risk	DOAC or Warfarin (INR 2-3)	3 months	
Unprovoked/recurrent event			
Low/moderate bleeding risk	DOAC or Warfarin (INR 2-3)	≥ 3 months	DOAC recommended over warfarin; see UW Medicine *Recommendations for Duration of Anticoagulant Therapy for VTE*
High bleeding risk	DOAC or Warfarin (INR 2-3)	3 months	
Cancer-associated	Anticoagulation	chronic	3 months LMWH, followed by chronic anticoagulation [warfarin (INR 2-3) or DOAC or LMWH]
Central line associated UE DVT			**Do not remove line if it is functional and necessary** **Same duration of therapy regardless of use of thrombolysis**
Line removed	Anticoagulation	3 months	Same duration for cancer and non-cancer patients
Line not removed	Anticoagulation	≥ 3 months	Minimum 3 months and continue until line removed
Portal/mesenteric/splenic/hepatic vein thrombosis			
Transient risk factors	Anticoagulation	3 months	LMWH preferred over warfarin (INR 2-3) for cancer-associated events or if hepatic insufficiency is present
Persistent risk factors	Anticoagulation	≥ 3 months	
Cerebral venous sinus thrombosis			
Transient risk factors	Warfarin (INR 2-3)	3-6 months	
Persistent risk Factors	Warfarin (INR 2-3)	chronic	

a. The term "DOAC" [direct oral anticoagulant] is used interchangeably with "NOAC" [non-vitamin K antagonist oral anticoagulant]

From *2020 ACC/AHA guideline for the management of patients with valvular heart disease. A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. 2021; 143:e72-e227.*

VALVULAR HEART DISEASE GUIDELINES			
INDICATION	**RECOMMENDATION**	**DURATION**	**COMMENT**
ATRIAL FIBRILLATION IN PATIENTS WITH VALVE DISEASE			
With rheumatic mitral stenosis	Warfarin (INR 2-3)	chronic	
Native valve disease without rheumatic mitral stenosis and CHA_2DS_2-VASc ≥ 2 in men or ≥ 3 in women	DOAC or Warfarin (INR 2-3)	chronic	DOAC recommended over warfarin
VALVE REPLACEMENT – SURGICAL BIOPROSTHETIC			
Mitral			
First 3-6 months/AF or NSR	Warfarin (INR 2-3)	3-6 months	Plus ASA 81mg daily only if indicated[b]
After 3-6 months/NSR	ASA 81mg daily	chronic	ASA 81mg daily
Aortic			
First 3-6 months/AF or NSR	Warfarin (INR 2-3)	3-6 months	Plus ASA 81mg daily only if indicated[b]
After first 3-6 months/NSR	ASA 81mg daily	chronic	ASA 81mg daily
VALVE REPLACEMENT – MECHANICAL			
Mitral	Warfarin (INR 2.5-3.5)	chronic	Plus ASA 81mg daily only if indicated[b]
Aortic			
On-X valve	Warfarin (INR 2-3)	chronic	Plus ASA 81mg daily
On-X valve, after 3 months and with no risk factors for thromboembolism	Warfarin (INR 1.5-2)	chronic	Plus ASA 81mg daily
Bileaflet or current generation tilting disk with no other risk factors for thromboembolism	Warfarin (INR 2-3)	chronic	Plus ASA 81mg daily only if indicated[b]
With other risk factors for thromboembolism (AF, previous thromboembolism, LV dysfunction, hypercoagulable state or an older generation prosthesis)	Warfarin (INR 2.5-3.5)	chronic	Plus ASA 81mg daily only if indicated[b]
Aortic + mitral	Warfarin (INR 2.5-3.5)	chronic	Plus ASA 81mg daily only if indicated[b]

b. For patients managed with warfarin and have an indication for antiplatelet therapy, addition of aspirin 75 to 100 mg daily may be considered when the risk of bleeding is low. Indications for the use of aspirin may include secondary prevention of vascular diseases.

1. Lip GYH, Banerjee A, Boriani G, et al. Antithrombotic therapy for atrial fibrillation: CHEST Guideline and Expert Panel Report. Chest. 2018; 154(5):1121-1201.
2. January CT, Wann LS, Calkins H, et al. 2019 AHA/ACC/HRS focused update of the 2014 AHA/ACC/HRS guideline for the management of for the management of patients with atrial fibrillation: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. J Am Coll Cardiol. 2019; 74(1):104-132.
3. Andrade JG, Verma A, Mitchell LB, et al. 2018 Focused update of the Canadian Cardiovascular Society guidelines for the management of atrial fibrillation. Can J Cardiol. 2018; 34(11):1371-1392.
4. Hindricks D, Potpara T, Dagres N, et al. 2020 ESC guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with EACTS. Eur Heart J. 2021; 42(5):373-498.

AF STROKE PREVENTION GUIDELINES SUMMARY				
Clinical Scenario	**ACCP 2018[1]**	**ACC/AHA/HRS 2019[2]**	**CCS 2018[3]**	**ESC 2020[4]**
Low Risk	CHA_2DS_2-VASc = 0 (men) CHA_2DS_2-VASc = 1 (women): No antithrombotic therapy	CHA_2DS_2-VASc = 0 (men) CHA_2DS_2-VASc = 1 (women): No antithrombotic therapy	CHADS-65[c] = 0: • CAD or arterial vascular disease (coronary, aortic, peripheral): ASA • No CAD: No antithrombotic therapy	CHA_2DS_2-VASc = 0 (men) CHA_2DS_2-VASc = 1 (women): No antithrombotic therapy
Moderate Risk	CHA_2DS_2-VASc ≥ 1 (men) CHA_2DS_2-VASc ≥ 2 (women): Oral anticoagulation	CHA_2DS_2-VASc = 1 (men) CHA_2DS_2-VASc = 2 (women): Consider anticoagulation	CHADS-65 ≥ 1: Oral anticoagulation	CHA_2DS_2-VASc = 1 (men) CHA_2DS_2-VASc = 2 (women): Consider oral anticoagulation
High Risk		CHA_2DS_2-VASc ≥ 2 (men) CHA_2DS_2-VASc ≥ 3 (women): Oral anticoagulation		CHA_2DS_2-VASc ≥ 2 (men) CHA_2DS_2-VASc ≥ 3 (women): Oral anticoagulation
Role of DOACs (excluding mechanical valves or moderate-severe mitral stenosis)	DOAC preferred over warfarin	DOAC preferred over warfarin	DOAC preferred over warfarin	DOAC preferred over warfarin
AF and Mitral Stenosis	MS, defined as moderate-severe, of rheumatic origin: Warfarin	MS, defined as moderate-severe: Warfarin	MS, defined as rheumatic or moderate-severe nonrheumatic: Warfarin	MS, defined as moderate-severe: Warfarin
AF ≥ 48h Pre-cardioversion	Therapeutic OAC for ≥ 3 weeks	Therapeutic OAC for ≥ 3 weeks	Therapeutic OAC for ≥ 3 weeks	Therapeutic OAC for ≥ 3 weeks
AF < 48h Pre-cardioversion	LMWH/UFH at full VTE dose at presentation and proceed to cardioversion	CHA_2DS_2-VASc = 0 (men) CHA_2DS_2-VASc = 1 (women): UFH, LMWH, DOAC or no anticoagulation without need for post-cardioversion OAC CHA_2DS_2-VASc ≥ 2 (men) CHA_2DS_2-VASc ≥ 3 (women): UFH, LMWH or DOAC as soon as possible before cardioversion	$CHADS_2$ 0 or 1 or AF < 12h without recent stroke/TIA: DOAC or IV UFH followed by warfarin immediately $CHADS_2$ ≥ 2 or AF < 12h with recent stroke/TIA: Therapeutic OAC for ≥ 3 weeks	Effective anticoagulation as soon as possible
Post-cardioversion	Therapeutic OAC for ≥ 4 weeks	Therapeutic OAC for ≥ 4 weeks	Therapeutic OAC for ≥ 4 weeks	Therapeutic OAC for ≥ 4 weeks (optional if definite duration of AF ≤ 24h and very low stroke risk)
AF ablation	Perform on uninterrupted warfarin, dabigatran or rivaroxaban	Not addressed in this guideline	Perform on uninterrupted OAC	Perform with uninterrupted OAC and continue ≥ 2 months post-ablation

c. The CHADS-65 or the "Canadian Cardiovascular Society Algorithm" scoring system assigns one point based on **C**ongestive Heart Failure, **H**ypertension, **A**ge >65, **D**iabetes, and **S**troke/Transient Ischemic attack. This is the recommended thrombotic risk stratification tool in the 2016 CCS Focused Update.

1. Lip GYH, Banerjee A, Boriani G, et al. Antithrombotic therapy for atrial fibrillation: CHEST Guideline and Expert Panel Report. Chest. 2018; 154(5):1121-1201.
2. January CT, Wann LS, Calkins H, et al. 2019 AHA/ACC/HRS focused update of the 2014 AHA/ACC/HRS guideline for the management of for the management of patients with atrial fibrillation: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Rhythm Society. J Am Coll Cardiol. 2019; 74(1):104-132.
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AF STROKE PREVENTION GUIDELINES SUMMARY

Clinical Scenario	ACCP 2018[1]	ACC/AHA/HRS 2019[2]	CCS 2018[3]	ESC 2020[4]
AF and stable CAD (> 12 months s/p ACS or stent)	OAC monotherapy	Not addressed in this guideline	CHADS-65 = 0: ASA alone or in combination with clopidogrel, ticagrelor or rivaroxaban 2.5mg BID CHADS-65 ≥ 1: OAC monotherapy	OAC monotherapy
AF and recent ACS	Low bleeding risk (HAS-BLED 0-2): Triple therapy 6 months, OAC + SAPT (preferably clopidogrel) until 12 months, then OAC monotherapy High bleeding risk (HAS-BLED ≥ 3): Triple therapy 1-3 months, OAC + SAPT (preferably clopidogrel) up to 12 months, then OAC monotherapy Unusually high bleeding risk with low thrombotic risk: OAC + SAPT (preferably clopidogrel) 6-9 months, then OAC monotherapy	CHA_2DS_2-VASc 0 or 1: Consider DAPT alone CHA_2DS_2-VASc ≥ 2: Double (OAC + $P2Y_{12}$ inhibitor) or triple therapy (OAC + $P2Y_{12}$ inhibitor + ASA) If triple therapy used: Consider minimizing duration to 4-6 weeks, then dual therapy	CHADS-65 = 0: DAPT alone CHADS-65 ≥ 1 with no PCI: OAC + clopidogrel up to 12 months, then OAC monotherapy CHADS-65 ≥1 with PCI: Triple therapy (OAC + clopidogrel + ASA) 1 day-6 months, OAC + clopidogrel up to 12 months, then OAC monotherapy	Low bleeding risk: Triple therapy (OAC + clopidogrel + ASA) up to 1 month, dual therapy (OAC + clopidogrel) up to 12 months, then OAC monotherapy High bleeding risk: Triple therapy (OAC + clopidogrel + ASA) up to 1 week, dual therapy (OAC + clopidogrel) up to 12 months, then OAC monotherapy
AF and elective PCI	Low bleeding risk (HAS-BLED 0-2): Triple therapy 1 months, OAC + SAPT (preferably clopidogrel) until 12 months, then OAC monotherapy High bleeding risk (HAS-BLED ≥ 3): Triple therapy 1 month, OAC + SAPT (preferably clopidogrel) for 6 months, then OAC monotherapy Bleeding risk unusually high with low thrombotic risk: OAC + SAPT (preferably clopidogrel) for 6 months, then OAC monotherapy	Not addressed in this guideline	CHADS-65 = 0: DAPT alone CHADS-65 ≥ 1 without high risk features for thrombotic events: OAC + clopidogrel 1-12 months for BMS or 3-12 months for DES, then OAC monotherapy CHADS-65 ≥ 1 and high risk features for thrombotic events: Triple therapy (OAC + clopidogrel + ASA) 1 day-6 months, OAC + clopidogrel up to 12 months, then OAC monotherapy	Low bleeding risk: Triple therapy (OAC + clopidogrel + ASA) up to 1 month, dual therapy (OAC + clopidogrel) until 6 months, then OAC monotherapy High bleeding risk: Triple therapy (OAC + clopidogrel + ASA) up to 1 week, dual therapy (OAC + clopidogrel) until 6 months, then OAC monotherapy