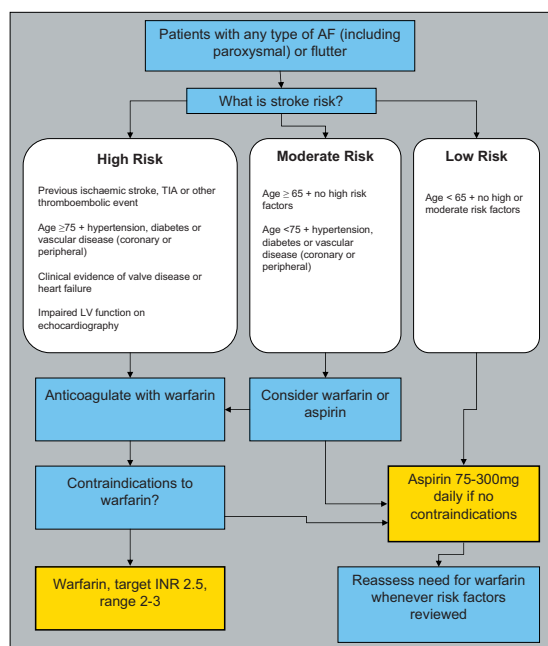


Innovations in Anticoagulation Therapy - Guidelines for Medical Professionals

New Research Highlights Further Significant Risk Factors Linking AF and Stroke

People who suffer from Atrial Fibrillation are often at an increased risk of stroke. Thinning the blood can reduce this risk, but each individual must rely on being appropriately assessed and advised on the most effective medication for their own needs.

By looking at large groups of people with AF, data has been collated which can help to indicate those most at risk of strokes. In the past this information has been used to inform clinical guidelines which help doctors and specialist nurses to make individual assessments. NICE (National Institute for Health and Clinical Excellence) published the Stroke Risk Stratification algorithm in its guidelines on AF management:



Adapted from National Collaborating Centre for Chronic Conditions. *Atrial fibrillation: national clinical guideline for management in primary and secondary care*. London: Royal College of Physicians, 2006

In this system patients are determined to be at 'low', 'moderate' or 'high' risk of stroke. More recently, this has been further developed in the 'CHADS₂' score which is now increasingly

referred to, as a simple and easy way to assess stroke risk.

CHADS₂ considers the major risk factors in people who have been diagnosed with AF.

Criteria	Score
C Congestive heart failure	1
H Hypertension – treated high blood pressure	1
A Age 75 years+	1
D Diabetes	1
S Stroke or previous TIA	2

Some patients, such as those with artificial heart valves and previous rheumatic fever, will need anticoagulation. Others can be evaluated using the CHADS₂ system. If a person's total score is two or more the patient should take Warfarin unless there is a good reason for not doing so (eg an allergy or a history of previous bleeding problems).

This system is simple to use, but research has shown that it fails to consider many other stroke factors which may lead to a recommendation to anticoagulate, most usually with Warfarin. A person's annual risk of stroke rises from under 2% in a year with no risk factors to over 10% per year with a CHADS₂ score of five or six. As a refinement of CHADS₂, a more refined schema that includes other stroke risk factors, called the CHA₂DS₂-VASc schema, has recently been proposed. This schema would be useful particularly in the group who would have only scored a 'zero' or 'one' in the CHADS₂ table, and yet who are still at risk of a stroke, by including crucial factors which had otherwise not been widely considered in current assessment systems.

The researchers analysed data for patients diagnosed with AF in the Euro Heart Survey who had been discharged from hospital without anticoagulation and for whom, one year later, stroke outcomes were known. In this analysis, the patients' average age was 66 years, and almost 60% of them were male, with 40% being female. The team used an evidenced-based systematic review from the UK NICE guidelines on AF management and tested them

against other tools including CHADS₂ and the Framingham Study risk assessment. Evidence gathered in this way showed that using schemes such as the CHADS₂ score, up to 60% of patients were classified with an 'intermediate risk', which in real terms meant that most would not have been suitably anticoagulated as doctors would be uncertain which is best given that guidelines say 'Warfarin or aspirin' for this category. However, increasing evidence shows that Warfarin is actually better than aspirin in such patients.

The researchers noted that high blood pressure was the most prevalent stroke risk factor (67.3%), followed by coronary artery disease (38.4%). Review of the data lead to the researchers finding significant additional stroke risk factors and so developed two new ways of evaluating risk. These are slightly more complex than CHADS₂ but still very easy: the CHA₂DS₂-VASc Scoring System as shown in the tables below:

Risk Factor	Score
C Congestive heart failure/Left ventricular dysfunction	1
H Hypertension —treated high blood pressure	1
A² Age 75+	2
D Diabetes	1
S² Stroke/TIA/TE (thromboembolism)	2
V Vascular disease — coronary artery disease (CAD), myocardial infarction (heart attack), peripheral artery disease (PAD), or aortic plaque	1
A Age 65-74	1
Sc Sex - Female gender	1

In the CHA₂DS₂-VASc Scoring System above, high risk equals a score of two or greater.

While the flow chart shown is an additional way of identifying who should be on anticoagulants.

Having one combination risk factor would make someone at intermediate risk and so probably benefit from Warfarin. This is further supported by research in the Birmingham Atrial Fibrillation Treatment of the Aged Study (BAFTA), which showed that 'Warfarin is superior to aspirin in people aged 75 and older, and that there was

no evidence to suggest any difference in major bleeds between an INR of 2.0–3.0 and 75 mg of aspirin, in an elderly AF population in primary care'.

Q1	Age 75 or greater?	Yes -> Oral Anti Coagulant (OAC) No -> Go to Q2	
Q2	History of stroke, TIA, or embolism?	Yes -> OAC No -> Go to Q3	
Q3	Gender?	Male -> Go to Risk Factors Female -> Go to Risk Factors	
	Risk Factors:	Male + two or more risk factors ->OAC	Female + any other risk factors -> OAC
	<ul style="list-style-type: none"> • Age 65–74 • Hypertension (high blood pressure) • Vascular disease — coronary artery disease (CAD), myocardial infarction (heart attack), peripheral artery disease (PAD), or aortic plaque • Heart failure • Decreased ejection fraction • Diabetes mellitus 		
OAC = Oral Anticoagulant			

Please contact AFA to order your AFA Fact Sheets on Warfarin Therapy, Warfarin and Medication and Warfarin and Diet.

Reference:

Refining clinical risk stratification for predicting stroke and thromboembolism in atrial fibrillation using a novel risk factor based approach: The Euro Heart Survey on Atrial Fibrillation.

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