Prevention, Detection and Management of Modifiable Risk Factors

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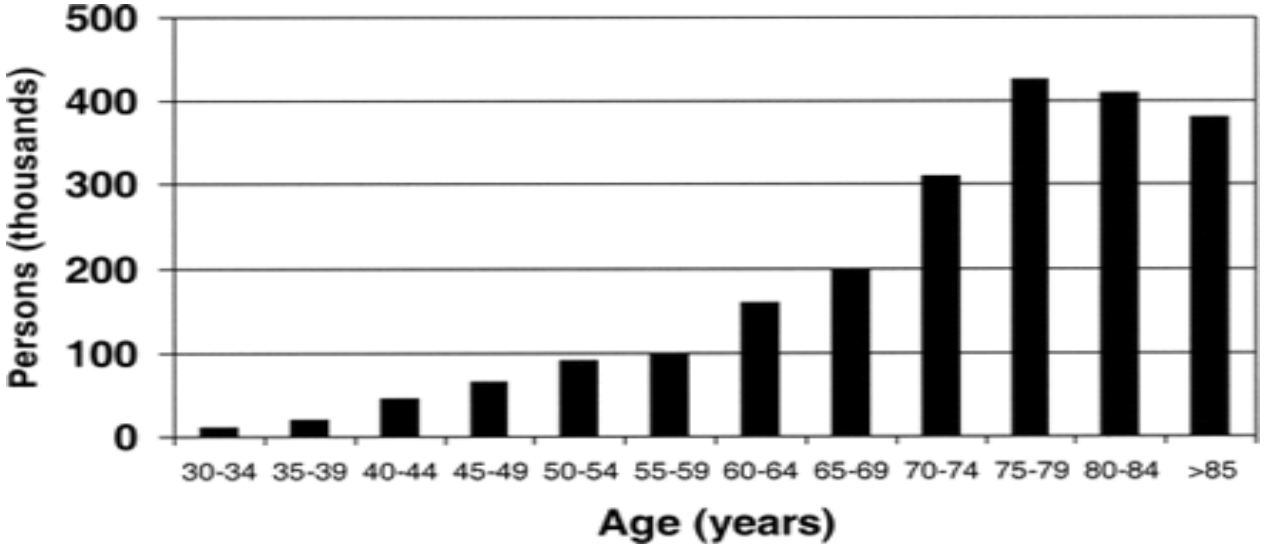
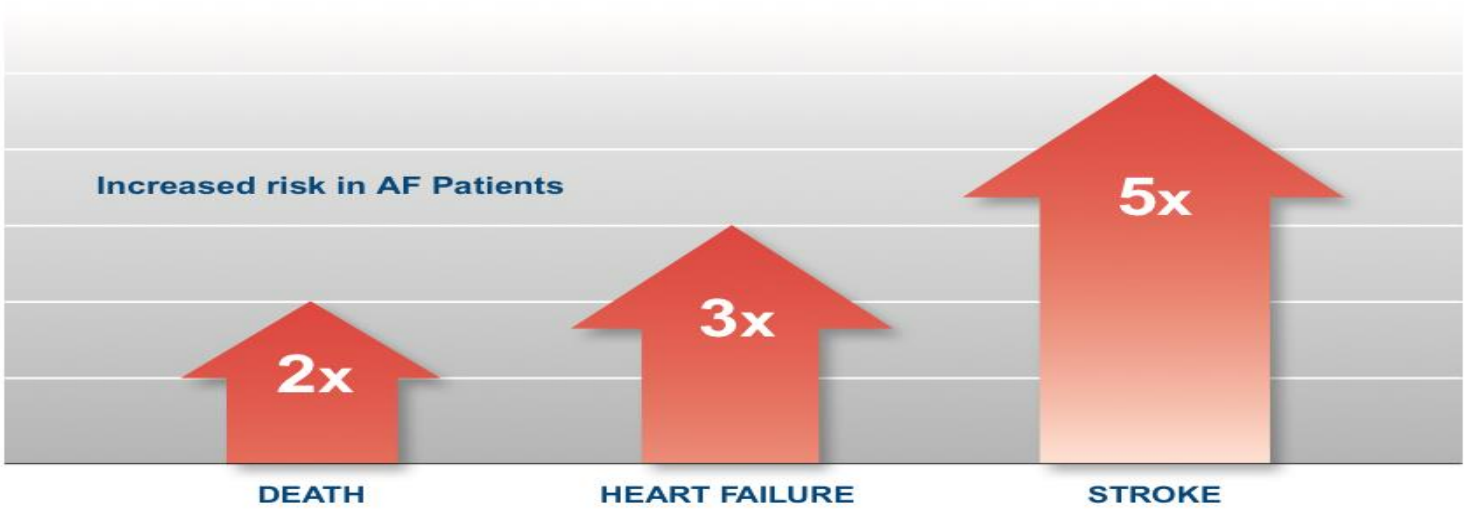
ACC Middle East Conference 2016

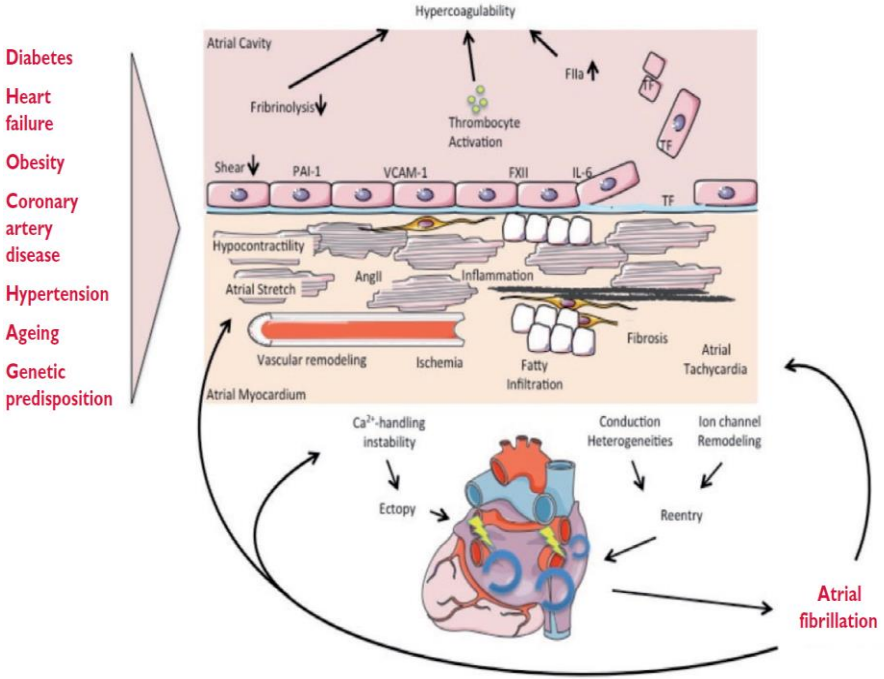


AF is a major arrhythmia, which has a high prevalence among population.

Circulation 2011; 124:1982



It is major healthcare problem associated with increased morbidity and mortality.



Several risk factors, triggers and medical disorders have been identified in the development of this arrhythmia.

The current evidence shows clear association between modifiable risk factors and risk of AF development.

- ✓ Prevention should be the first step.
- ✓ Which is cheaper and more natural.
- ✓ But, it is not easy.

2016 ESC Guidelines for the management of atrial fibrillation developed in collaboration with EACTS

The Task Force for the management of atrial fibrillation of the European Society of Cardiology (ESC)

Developed with the special contribution of the European Heart Rhythm Association (EHRA) of the ESC

Endorsed by the European Stroke Organisation (ESO)

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Weight reduction in patients with atrial fibrillation

Recommendations	Class	Level
In obese patients with AF, weight loss together with management of other risk factors should be considered to reduce AF burden and symptoms.	IIa	B

Management of respiratory diseases in patients with atrial fibrillation

Recommendations	Class	Level
Correction of hypoxaemia and acidosis should be considered as initial management for patients who develop AF during an acute pulmonary illness or exacerbation of chronic pulmonary disease.	IIa	C
Interrogation for clinical signs of obstructive sleep apnoea should be considered in all AF patients.	IIa	B
Obstructive sleep apnoea treatment should be optimized to reduce AF recurrences and improve AF treatment results.	IIa	B

Physical activity in patients with atrial fibrillation

Recommendations	Class	Level
Moderate regular physical activity is recommended to prevent AF, while athletes should be counselled that long-lasting intense sports participation can promote AF.	I	A
AF ablation should be considered to prevent recurrent AF in athletes.	IIa	B
The ventricular rate while exercising with AF should be evaluated in every athlete (by symptoms and/or by monitoring), and titrated rate control should be instituted.	IIa	C
After ingestion of pill-in-the-pocket flecainide or propafenone, patients should refrain from sports as long as AF persists and until two half-lives of the antiarrhythmic drug have elapsed.	IIa	C

.....however;

- ✓ Prevention is not fully covered in current guidelines and some aspects are still controversial.
- ✓ Several associated conditions need to be explained in more details.

European Heart Rhythm Association (EHRA)/ European Association of Cardiovascular Prevention and Rehabilitation (EACPR) Position Paper on

How to Prevent Atrial Fibrillation

endorsed by the Heart Rhythm Society (HRS) and Asia Pacific Heart Rhythm Society (APHRS)

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Consensus statements on AF prevention I:
Risk factors and lifestyle modification

Consensus statements on AF prevention II: Management of associated conditions

Consensus statements on AF prevention I: Risk factors and lifestyle modification

Consensus statements on AF prevention I: Risk factors and lifestyle modification

Risk factor/ trigger	Recommendations for clinical practice	Recommendations for research
Obesity	Inform overweight and obese patients of greater risk of developing AF and a subsequent risk of stroke and death. Assess BMI and start lifestyle programs if BMI is overweight or obese	More studies are needed on how to effectively prevent weight gain and promote weight loss in individuals who are overweight or obese More randomized controlled studies with long-term follow-up (>5 years) are needed to clarify the obesity paradox.
General dietary considerations	Recommend healthy nutrition and lifestyle to reduce risk of AF Mediterranean diet enriched with olive oil may reduce risk of AF and its complications	More studies are needed on: The effect of unhealthy nutrition on risk of AF Whether modification of diet reduces risk of arrhythmia
Blood lipids, fish consumption	Inform patients with low HDL and high triglyceride levels of risk of AF and its complications Recommend to patients with abnormal blood lipids consumption of a diet "that emphasizes intake of vegetables, fruits, and whole grains; includes low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils, and nuts; and limits intake of sweets, sugar-sweetened beverages, and red meats"[64] Recommend combination of diet with moderate physical activity and maintenance of a healthy lifestyle and weight	Lacking direct evidence, more studies are needed to define whether modification of blood lipids reduces the risk of AF.

Consensus statements on AF prevention I: Risk factors and lifestyle modification

Obstructive sleep apnea	Inform patients with obstructive sleep apnea that there is a greater risk of developing AF and their subsequent risk of stroke and death. Assess by anamnesis (snoring, daytime fatigue) the possibility of OSA. Refer to specialised clinic, as needed.	More studies are needed: To investigate how comorbidity in patients with obstructive sleep apnea affects the risk of AF. To show the benefit of diagnostic efforts and the effect of treatment with CPAP. On adequate assessment of presence of OSA in AF population. To show reduced risk of AF in well powered RCTs using systematic therapeutic approach together with other lifestyle changes
Hypertension	Uncontrolled blood pressure is associated with AF risk Adequately assess patients at risk Control BP to reduce AF risk	Additional well-conducted secondary AF prevention trials will be important to define target SBP optimal to prevent AF Implement in RCTs together with other lifestyle management
Diabetes mellitus	Longer duration of diabetes and worse glycemic control are associated with increased AF risk Control diabetes to reduce AF risk	More research is needed on the effect of glycemic control on AF risk in patients with diabetes

Consensus statements on AF prevention I: Risk factors and lifestyle modification

Tobacco smoking	Intensively encourage children, young and older adults not to begin smoking. In individuals who smoke support smoking cessation to prevent AF incidence, recurrence, symptoms, and complications. **Primordial prevention**. Support efforts to prevent the uptake of tobacco smoking. **Primary prevention**. Encourage individuals to quit smoking. **Secondary prevention**. In individuals with AF promote efforts to quit smoking to improve AF frequency, duration, and symptoms	Investigate whether electronic cigarettes and second hand smoke are associated with an increased risk of new-onset AF, and in individuals with prevalent AF, whether electronic cigarettes and second hand smoke are associated with AF recurrence and AF symptoms. In individuals with AF, examine the efficacy and effectiveness of smoking cessation interventions to decrease the risk of stroke, myocardial infarction, chronic kidney disease, dementia, and all-cause mortality.
Air pollution	No association with chronic exposure; patients prone to AF should refrain from severe pollution exposure.	Overall data are scarce and should be increased specifically aimed at incidence of AF in patients with known cardiac disease.
Caffeine	No increase in risk, rather a reduced association, even for heavy consumption.	Data should be extended to randomized intervention studies addressing caffeine consumption in patients with paroxysmal AF
Alcohol	Moderate-heavy and binge drinking increases AF risk To reduce AF risk: Recommend to avoid binge drinking (>4 drinks in women and >5 drinks in men on a single occasion) Recommend to refrain consumption to no more than 2 drinks per day for men and 1 drink per day for women Obtain a detailed history on alcohol consumption Provide appropriate counseling to reduce alcohol consumption in patients with AF	More intervention studies are needed on the effect of alcohol consumption reduction on AF risk

Consensus statements on AF prevention I: Risk factors and lifestyle modification

Medications	Many drugs increase AF risk. In patients with new-onset AF, review the pharmacological history to identify whether any of the prescribed drugs may cause the arrhythmia.	More research on the effects on AF incidence for drug induced new-onset AF is needed, as many studies show conflicting results. Also more research is needed on which medications cause increased risk of AF.
Recreational drugs	Recreational drugs (cannabis, ecstasy and anabolic androgenic steroids) may increase risk of AF. Examine for recreational drug abuse in new-onset AF Encourage avoidance of recreational drugs.	More research is needed on the effect of illicit drugs, particularly cannabis, on new-onset AF, as most of the evidence is from case reports
Psychological distress	Identify significant psychological distress, particularly depression and anxiety, and treat appropriately to reduce the likelihood of adverse lifestyle choices (smoking, excessive alcohol intake, poor diet, physical inactivity) and poorer adherence to medication and lifestyle modification, all of which may increase the likelihood of development of other risk factors for AF, and hence predispose people to incident AF and other chronic diseases.	Further investigation of the impact of psychological distress on the development of AF in more diverse populations is warranted since the current limited evidence is based predominantly on white, middle-class, and middle-aged cohorts, and is only evident in men.
Physical activity	Recommend daily moderate exercise to reduce risk of AF	Role of physical activity clearly warrants further research, plus genetics involved in AF in excessive sports

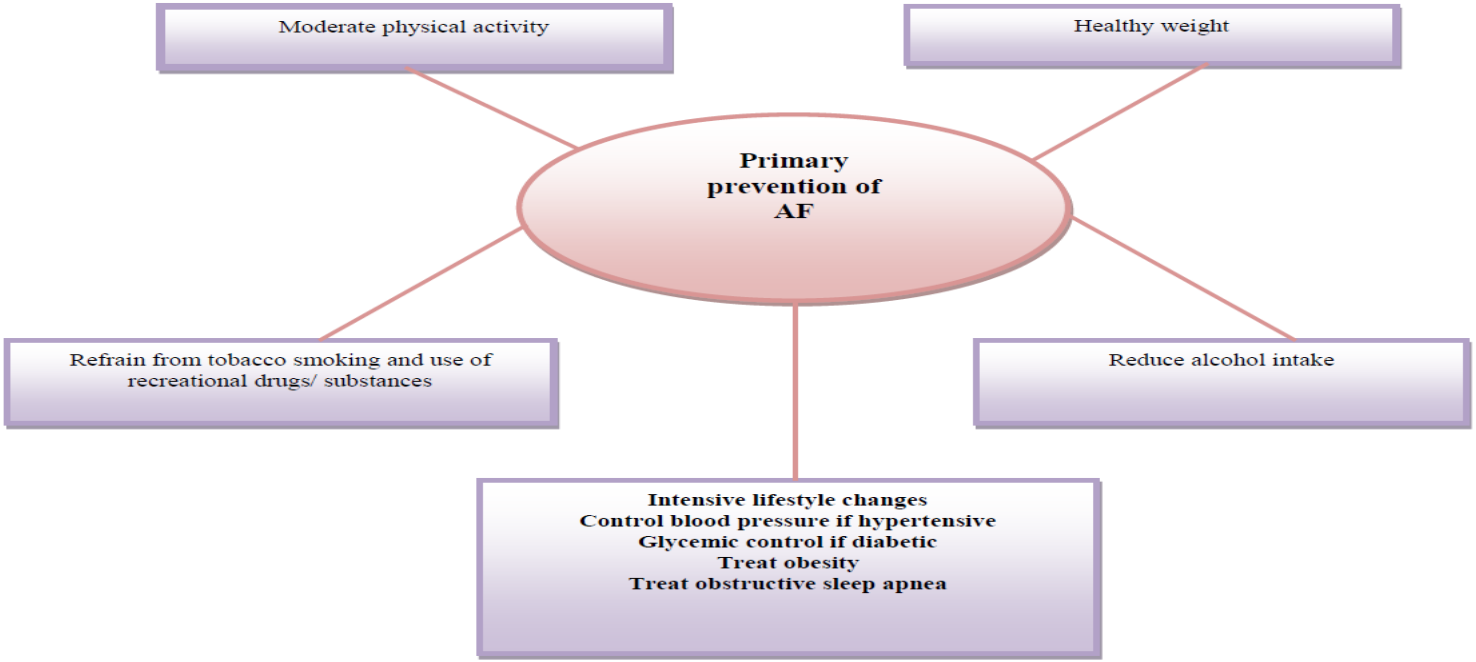
Consensus statements on AF prevention II: Management of associated conditions

Consensus statements on AF prevention II: Management of associated conditions

Risk factor/ trigger	Recommendations for clinical practice	Recommendations for research
Hyperthyroidism	Overt and subclinical hyperthyroidism increase AF risk Control thyroid function in patients at risk of AF Treat associated cardiovascular diseases and consider modification of risk factors	More research is needed regarding risk factors and prevention of AF in populations with high-normal thyroid function (based on TSH level) and individuals with higher level of free thyroxin within normal range.
Supraventricular tachyarrhythmias and paroxysmal AF	In patients with SVT and paroxysmal AF: Ablate SVT, continue antiarrhythmic drugs or ablate AF as needed. Checking for potential SVT substrate should be considered in patients with isolated PAF referred for ablation	Additional studies on prevention of AF in patients with SVT are needed

Consensus statements on AF prevention II: Management of associated conditions

Risk factor/ trigger	Recommendations for clinical practice	Recommendations for research
Postoperative AF	Beta-blockers and amiodarone are indicated for prophylaxis of postoperative AF	More research is needed on use of pharmacological agents with anti-inflammatory and anti-remodeling properties for prevention of postoperative AF
Upstream therapies	-	Long term effects of long-term secondary prevention with upstream therapies starting early after onset of AF



A lifetime approach to cardiovascular risk modification is required

Key messages….

✓Prevention of this disorder requires a tailored approach to the individual patient.

✓Certain modifiable risk factors, such smoking, alcohol abuse and lack of physical activity are deemed important components of a preventive strategy.

✓**General physicians** have a relevant role in this strategy, by monitoring their patients closely and adopting a lower threshold for educational intervention.

✓Special attention should be paid to the **adolescent and young** generations, who paradoxically are not at low cardiac risk, because of the epidemic incidence of obesity, inappropriate nutritional behavior, smoking and alcohol abuse, and a widespread sedentary lifestyle.

✓Effort should be paid by **policy makers** in order to improve the population's capability to achieve and maintain a healthy cardiovascular lifestyle.

Istanbul