

# Atrial fibrillation

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**TITLE** A comparison of rate control and rhythm control in patients with atrial fibrillation

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**LIST OF ABBREVIATIONS** Atrial Fibrillation Follow up Investigation of Rhythm Management (AFFIRM)

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Atrial fibrillation is a common arrhythmia which is associated with morbidity and mortality. The risk of stroke is about 5% per annum in those over 65 years; the risk is higher in those patients who have already had a stroke and in those with a history of heart failure, hypertension, diabetes, or evidence of structural heart disease. The prevalence of atrial fibrillation in our population is around 3% of 70-year-olds and 5% or more of 80-year-olds, and the management of atrial fibrillation is an increasingly common problem for those dealing with elderly patients with acute medical problems as well as Cardiologists.

There is debate as to whether patients with persistent atrial fibrillation are best managed using a strategy to restore and maintain sinus rhythm, or one accepting the arrhythmia and simply controlling the ventricular rate.

The recent AFFIRM trial enrolled more than 4,000 patients with atrial fibrillation in whom restoration and maintenance of sinus rhythm or control of heart rate were acceptable treatment options. Enrolled patients (mean age of 70 years) had at least one risk factor for stroke or death accompanying atrial fibrillation and could symptomatically tolerate the arrhythmia at entry to the trial. Approximately 50% of patients randomised had a history of hypertension and 25% a history of coronary artery disease or heart failure. For those patients randomised to rate control Digoxin, betablockers or calcium antagonists were used to control the heart rate

and warfarin to reduce of risk of stroke. Those randomised to rhythm control received amiodarone, sotalol or propafenone and, if necessary, DC cardioversion; the majority continued to receive warfarin.

At follow-up at 5 years, 60% of the patients in the rhythm control group remained in sinus rhythm. Satisfactory rate control was achieved in > 80% of those in the rate control group. There was no difference in all-cause mortality although there was a trend favouring the rate control group. There were no differences in secondary end points of stroke rate, quality of life, or functional status. Importantly, the majority of strokes in both groups occurred in patients with sub-therapeutic levels of anticoagulation, or after warfarin had been stopped. This finding yet again emphasises the importance of careful attention to anticoagulation control in patients given warfarin to prevent stroke. In the pre-defined group of patients who were under the age of 65 a trend favouring rhythm control was noted.

These results suggest that, at least in the elderly population of patients with atrial fibrillation and risk factors for stroke or death, rate control is at least as good as rhythm control. Furthermore, a significant proportion of the patients restored to sinus rhythm developed permanent atrial fibrillation during the period of the study and more would be expected to develop permanent atrial fibrillation if followed for a long enough period of time.