

# Managing Atrial Fibrillation

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## INTRODUCTION

Although most emergency physicians will have an established routine for managing the emergency department (ED) patient with atrial fibrillation, in the last 4 years 9 new updates and guidelines for the management of these patients have been published by European, Canadian, and US professional groups,<sup>1-8</sup> rendering many of those practices out of date. We discuss our approach to the ED patient with atrial fibrillation (or atrial flutter, for which the recommendations are the same) according to the most recent guidelines<sup>1-9</sup> and our expertise in the area.<sup>10-17</sup>

## THE UNSTABLE PATIENT

First, it is important to carefully consider why the patient is unstable and whether the atrial fibrillation is the cause. Many patients are hypotensive as a result of sepsis, gastrointestinal hemorrhage, or other causes, and have a long history of atrial fibrillation, with an abnormally high pulse rate because of their acute illness. These patients will likely not convert with the immediate cardioversion that is recommended in atrial fibrillation guidelines<sup>3,5,7</sup> because the atrial fibrillation is long-standing. Their hypotension is usually caused by another source that needs to be addressed. For these patients, it may be helpful to slow the pulse rate slightly to reduce myocardial demand, but recall that many of them will require a relatively fast pulse rate to compensate for their decreased stroke volume (otherwise, their cardiac output will decrease).

Second, we contend that the definition of stability represents a continuum, rather than a dichotomous state. Although a patient who is losing consciousness is clearly unstable (and requires immediate cardioversion despite the risk of stroke if the duration of atrial fibrillation is >48 hours), the tachypneic patient with early signs of heart failure may have time for pharmacologic intervention. We outline an approach to one of the most challenging unstable atrial fibrillation patients, the hypotensive, conscious patient with atrial fibrillation of unknown duration (Figure 1). Challenging because sedation may worsen the hypotension, but cardioversion without sedation should be avoided. There are relatively few data to support any of the outlined approaches (or one over another); they represent both guideline recommendations and approaches we routinely use.

## Amiodarone

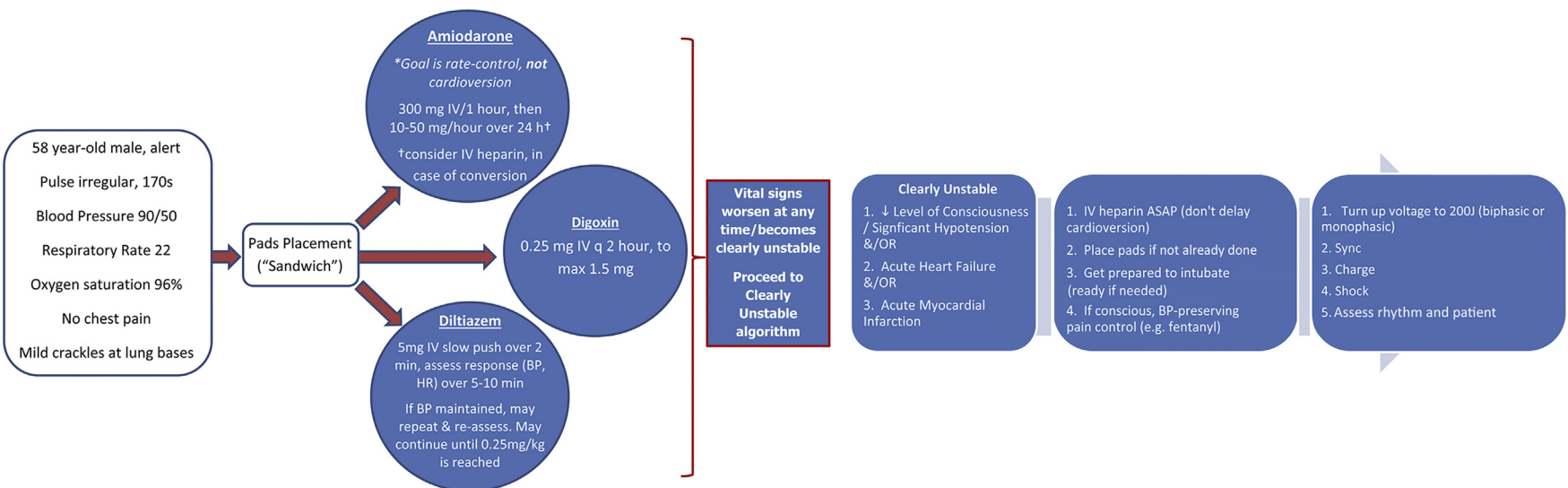
Amiodarone is used for rate control in this setting, not for cardioversion (which usually takes 4 to 6 hours with intravenous amiodarone).<sup>5,7</sup> However, anticoagulation (with heparin) is advisable, given that cardioversion to normal sinus rhythm may occur with this drug.

## Digoxin

Another guideline-endorsed option is intravenous digoxin. Although slow in onset, anecdotally it often improves the blood pressure within 30 minutes.<sup>18</sup>

## Diltiazem

In all guidelines, it is recommended that nondihydropyridine calcium-channel blockers (eg, diltiazem) be avoided in the setting of hypotension or heart failure, although the quality of evidence for the recommendation is poor.<sup>2,5,7</sup> Many emergency physicians have found that by cautiously slowing the pulse rate with intravenous diltiazem, the blood pressure actually increases, presumably because of increased ventricular filling time. If this option is selected, doses should be administered in small amounts, followed by assessment of the response.



**Figure 1.** Management options for the hypotensive, conscious patient, which may be attempted to avoid immediate cardioversion. We recommend selecting only 1 of the 3 options; if not effective (pulse rate decreased and blood pressure increased or maintained), obtain expert consultation. If vital signs or level of consciousness worsens, proceed to immediate cardioversion.

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