Atrial Flutter — Symptoms and Diagnosis

Atrial flutter is an irregular heart rhythm of the atria. It is classified as a supraventricular tachycardia. This rhythm is associated with heart disease and hypertension. Symptoms include palpitations. Complications include increased risk of stroke and congestive heart failure. Diagnosis is made by observing sawtooth “flutter” P waves on EKG at a rate of 240-400 contractions per minute. Treatment through ablation is usually curative, though medication can also play a role.

Definition of Atrial Flutter

Atrial flutter as supraventricular tachycardia

Atrial flutter is defined as a supraventricular tachycardia with an atrial origin that meets two requirements:

- Atrial heart rate between 240–400 beats per minute
- AV node conduction block

Additionally, it is characterized as a sawtooth pattern on ECG in leads II, III, and aVF. The QRS complexes will be narrow because its ectopic signal originates in the atrium. The ventricular heart rate will be constant, elevated above 100 bpm, and is considered a
regularly irregular rhythm.

It is important to note that the atrial heart rate seen in atrial flutter is different from ventricular heart rate. One of every two or three depolarization signals may pass through the AV node. A 2:1 or 3:1 ratio of P waves to QRS complexes is commonly seen on ECG. A patient may have an atrial heartbeat of 300 beats per minute but a ventricular heart rate of only 150 beats per minute. In this situation, the heart rate would be reported as “Atrial flutter with a heart rate of 150 beats per minute”.

![Image: “A 12 lead ECG showing atrial flutter” by James Heilman, MD. License: CC BY-SA 3.0](image_url)

The most common symptoms are palpitations and those symptoms associated with low cardiac output: fatigue, dyspnea, and chest pain. Syncope and congestive heart failure are also possible.

There are two types of atrial flutter:

- **Type 1** – common or “typical” atrial flutter: has a reentrant loop type arrhythmia around the tricuspid valve and has an atrial rate of 240-340 beats per minute. Type 1 atrial flutter produces the characteristic sawtooth pattern in leads II, III, and aVF on ECG.
- **Type 2** – atypical flutter: has an abnormal reentrant loop type arrhythmia and a much higher atrial rate at 340–440 beats per minute.

**Epidemiology of Atrial Flutter**

**Spread of atrial flutter**

Atrial flutter is less common than atrial fibrillation. Atrial flutter is 2.5 times more common in men compared to women and is more common in the elderly with an average age of onset is 64 years.
Etiology of Atrial Flutter

Causes of atrial flutter

A variety of cardiac and pulmonary diseases may result in atrial flutter. Any heart disease that results in inflammation or alteration to the structure of the heart may cause atrial flutter including cardiomyopathy, congenital heart defects, rheumatic disease, and pericarditis. About 1/3 of patients with atrial flutter may suffer from no other cardiovascular diseases at all; however, about 1/3 suffer from coronary artery disease (angina and myocardial infarction), and another 1/3 suffer from hypertension. Other conditions include: