

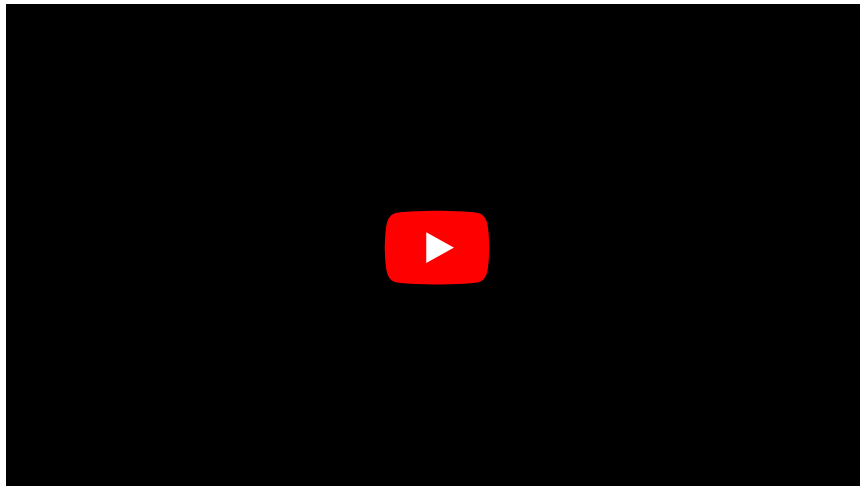
# Atrial flutter

**Atrial flutter**<sup>1</sup> is an atrial tachyarrhythmia of macroreentry character.

**Atrial flutter:**



Typical atrial flutter with functional AV block 3:1 to 4:1



**Atrial flutter 2:**



## Types

There are **2** types of atrial flutter.

### Typical atrial flutter (type I)

Typical atrial flutter is a regular tachyarrhythmia with a large reentry circuit in the right atrium, part of which passes through the **cavotricuspid isthmus**.

Atrial #flutter circling counterclockwise (*counterclockwise flutter*);

1. clockwise atrial flutter (*clockwise flutter*);

## Atypical atrial flutter (type II)

Reentry in atypical flutter occurs heterogeneously, in both right and left atria, independent of the cavotricuspid isthmus.

## Etiology

- ICHS,
- hyperthyroidism,
- mitral defects,
- after cardiac surgery,
- idiopathic flutter.

## Diagnosis

Diagnosis is based on ECG. On the EKG, we observe:

- regular atrial activity at a rate of 250-350/min (in atrial fibrillation, the atrial activity is irregular);
- atrial flutter waves of sawtooth character (resembling sawtooth), especially in leads II, III, aVL and V1;
- abscesses of the ST-T segment.

The ventricular frequency is usually half of the normal (150/min). The AV node passes every second impulse in an attempt to protect the ventricles from too fast rhythm, thus creating a *functional AV block 2:1* (possibly 3:1, 4:1).

 **Atrial flutter can transform into atrial fibrillation and vice versa.**

## Complications

The main complication of atrial flutter is thromboembolism, more rarely it may be **tachycardia cardiomyopathy**. In the case of unblocked atrial flutter, each atrial contraction is converted to ventricular, resulting in tachycardia with subsequent myocardial exhaustion and the development of tachycardia cardiomyopathy (cardiac dilatation, reduced left ventricular systolic function, left-sided heart failure). A very rare complication of atrial flutter is **sudden cardiac death**.

## Treatment

The method of choice for the treatment of atrial flutter is **catheter radiofrequency ablation of the cavotricuspid isthmus**, during which we use radiofrequency energy to create linear lesions across the isthmus with the goal of achieving bidirectional isthmus blockade and interruption of the reentry circuit. In addition to catheter ablation, the following may also be used in the treatment of flutter:

- **external electrical cardioversion**, which is usually necessary to terminate the arrhythmia;
- antiarrhythmic drugs, heart rate controlling drugs (beta-blockers, verapamil, digoxin);
- transesophageal atrial pacing;
- intracardiac pacing.

## Links

### Related articles

- Atrial Fibrillation
- Antiarrhythmics
- Cardiac conduction system
- Heart rhythm disorders

### External links

- Atrial Flutter (TECHmed) (<https://www.techmed.sk/flutter-predsieni/>)]

### Literature used

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