

ATRIAL FIBRILLATION AND STROKE

The right and left atria are the two uppermost chambers of the heart, which are responsible for receiving blood from the body and pumping it to the right or left ventricle respectively. During atrial fibrillation, aberrant electrical signaling to the atria causes them to beat too quickly, and this irregular rhythm prevents the atria from fully emptying their blood contents into the ventricles during each heart beat.

As a result, blood in the atria is allowed to pool and stagnate, creating an environment on the atrial wall that is highly susceptible to the formation of a thrombus (blood clot).

A stroke occurs when a thrombus from the wall of the left atria breaks free, and is able to travel through the systemic circulation to reach the brain. Starting from the aorta, the clot travels up the

neck and through smaller and smaller vessels until it becomes trapped in the small arteries of the brain. Brain tissue that is downstream of the clogged artery becomes blood starved and runs the risk of dying from ischemia.

Signs of a stroke are often sudden and severe, and individuals who experience any signs of a stroke should seek immediate medical attention.

Signs of a stroke

- Numbness
- Confusion
- Trouble seeing
- Trouble walking
- Severe headache



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The thrombus becomes clogged in the small arteries of the brain, forming an embolism.

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The thrombus breaks free from the heart wall and travels to the brain through the systemic circulation.

1

Improper electrical signalling in the heart causes the atria to beat irregularly.

2

Stagnation of blood in the atria may lead to thrombus formation on the atrial wall.

Symptoms of atrial fibrillation

- Irregular heartbeat
- Heart palpitations
- Lightheadedness
- Fatigue
- Shortness of breath
- Chest pain

