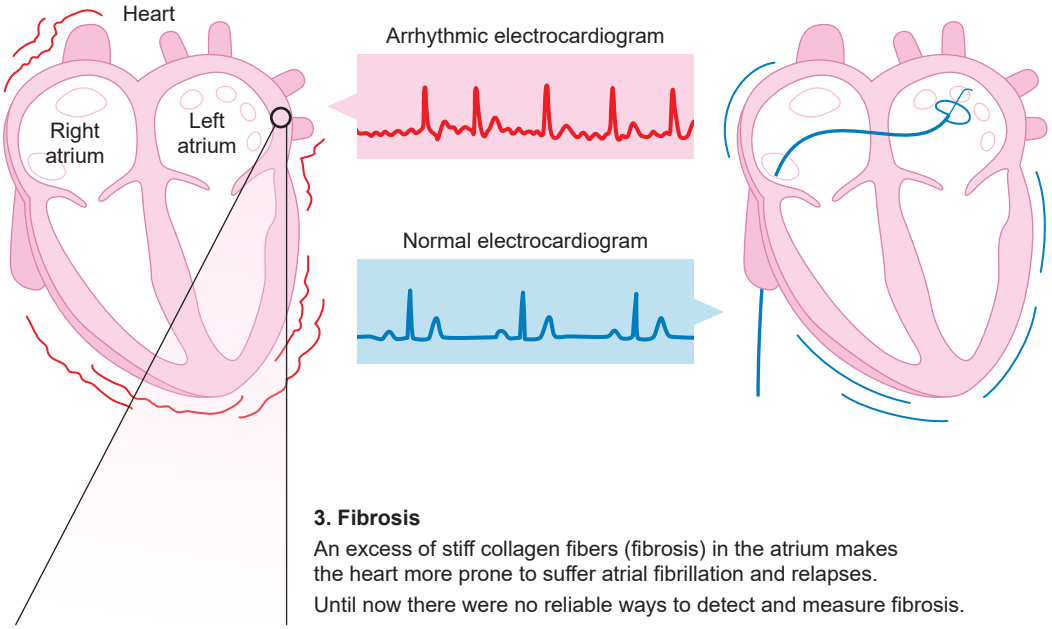
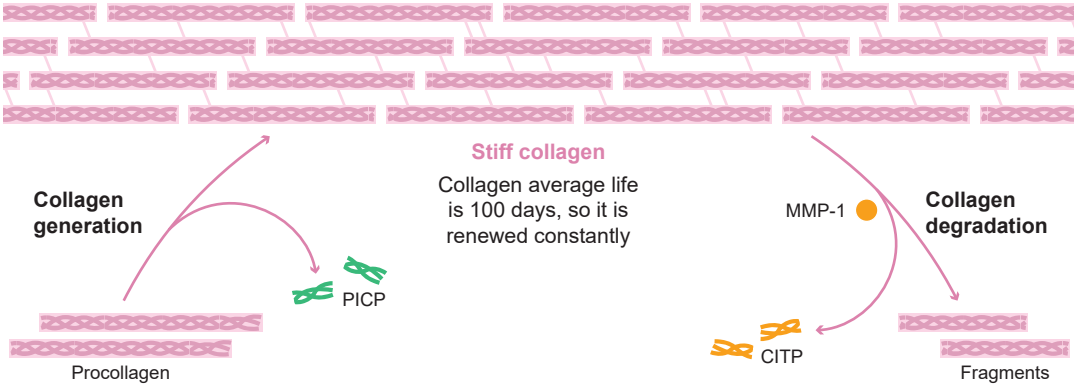
Biomarkers for atrial fibrillation

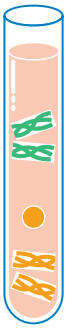
1. Atrial Fibrillation
In atrial fibrillation the contraction of the atria is uncoordinated. It can generate heart attack, heart failure, stroke, or other complications related to the heart.

2. Treatment and relapses
Cardiac ablation is an effective treatment, but relapses occur in approximately 40% of patients.



3. Fibrosis
An excess of stiff collagen fibers (fibrosis) in the atrium makes the heart more prone to suffer atrial fibrillation and relapses.
Until now there were no reliable ways to detect and measure fibrosis.





4. Blood biomarkers
Researchers searched in blood for molecules that indicated the amount of cross-linked stiff collagen fibers at the heart.

Altered levels:

PICP: It is produced when making collagen → High PICP: **Too much collagen is generated**

MMP-1: It is responsible for degrading collagen
CITP: It is produced when degrading collagen
→ Imbalance between both (It divides CITP / MMP-1): **It is degraded less collagen than normal**

5. Findings
Those who have these levels altered:

A: Have a high risk of developing atrial fibrillation → **Identify patients** with risk of developing atrial fibrillation

B: Are more prone to relapse after being treated with cardiac ablation → **Prevent relapses** after cardiac ablation by treating patients with pharmacological agents that reduce fibrosis

6. Benefits
This analysis could be used to: