CARDIOLOGY UPDATE FOR SENIORS

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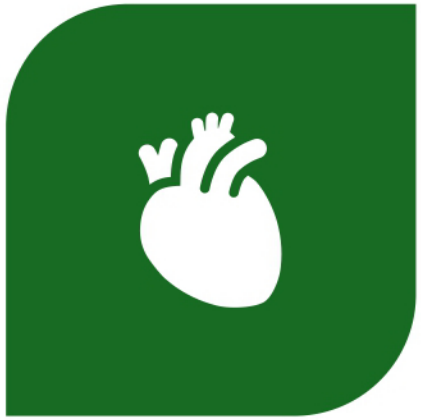
Associate Professor of Clinical Medicine

Top 3 Heart Conditions as we Age

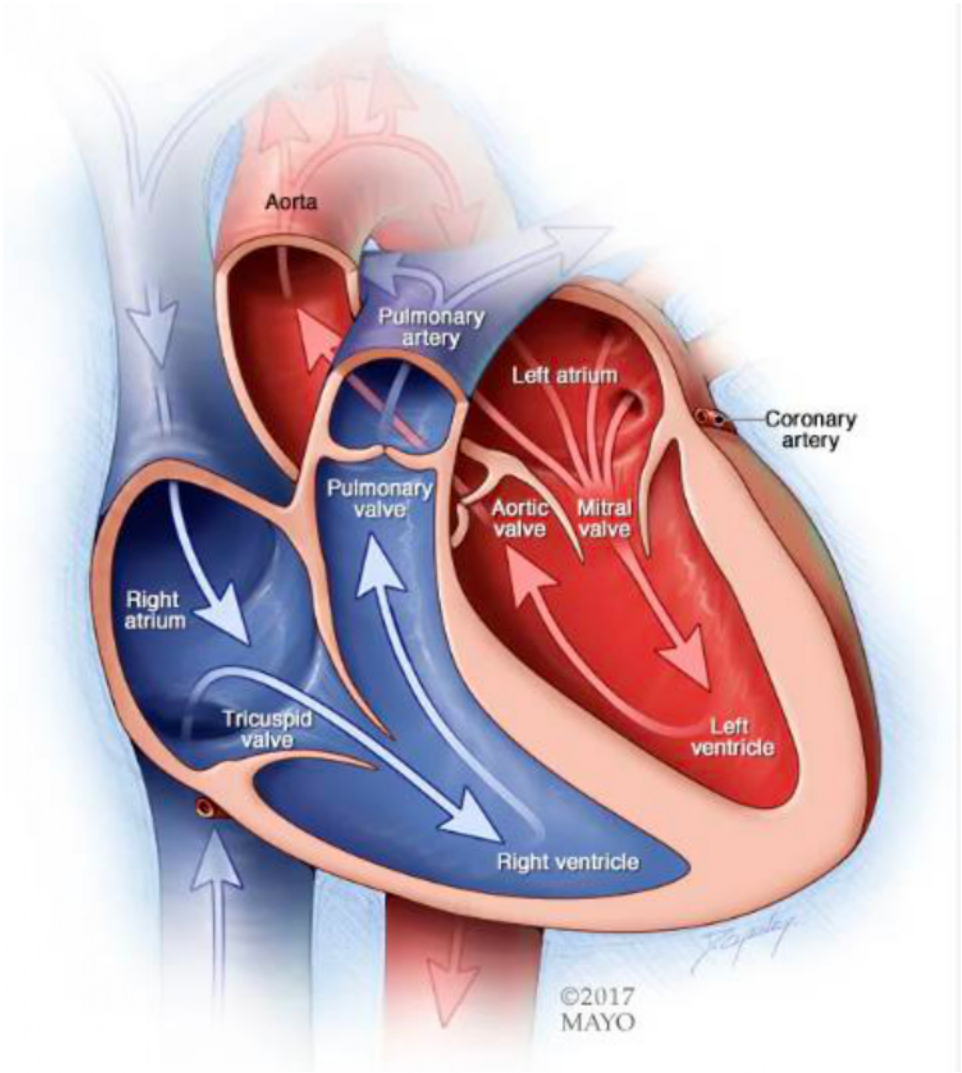
ATRIAL FIBRILLATION– THE IRREGULAR HEARTBEAT YOU SHOULDN'T IGNORE

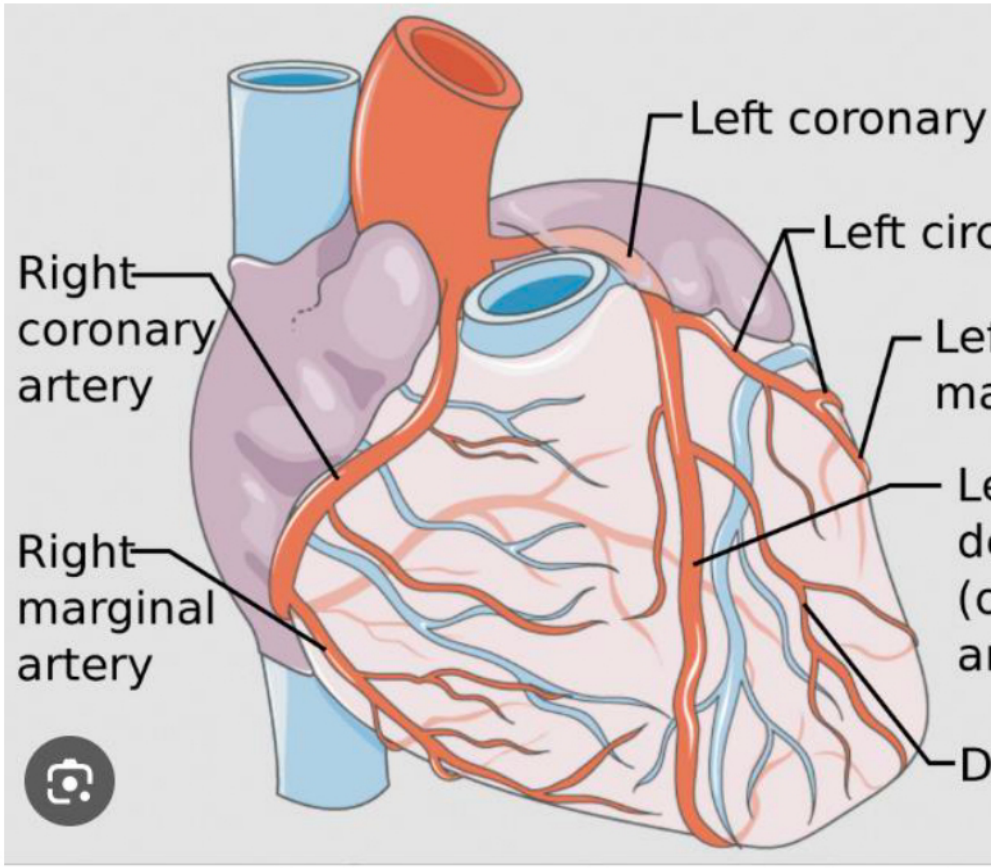


AORTIC STENOSIS – THE MAIN DOOR OF THE HEART WEARS OUT

CORONARY DISEASE – BL IN HEART VESSE

NORMAL HEART ANATOMY

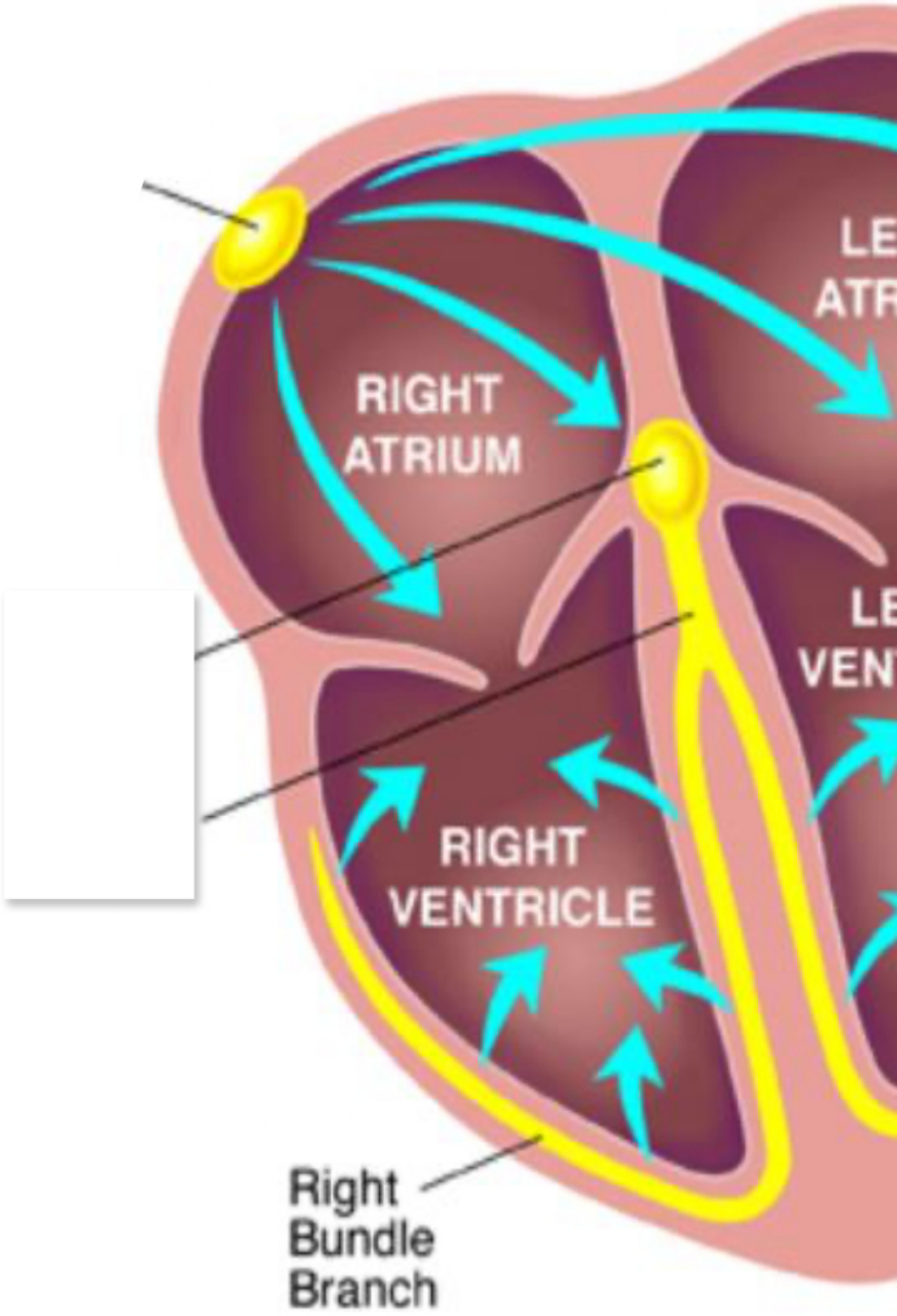




Atrial Fibrillation

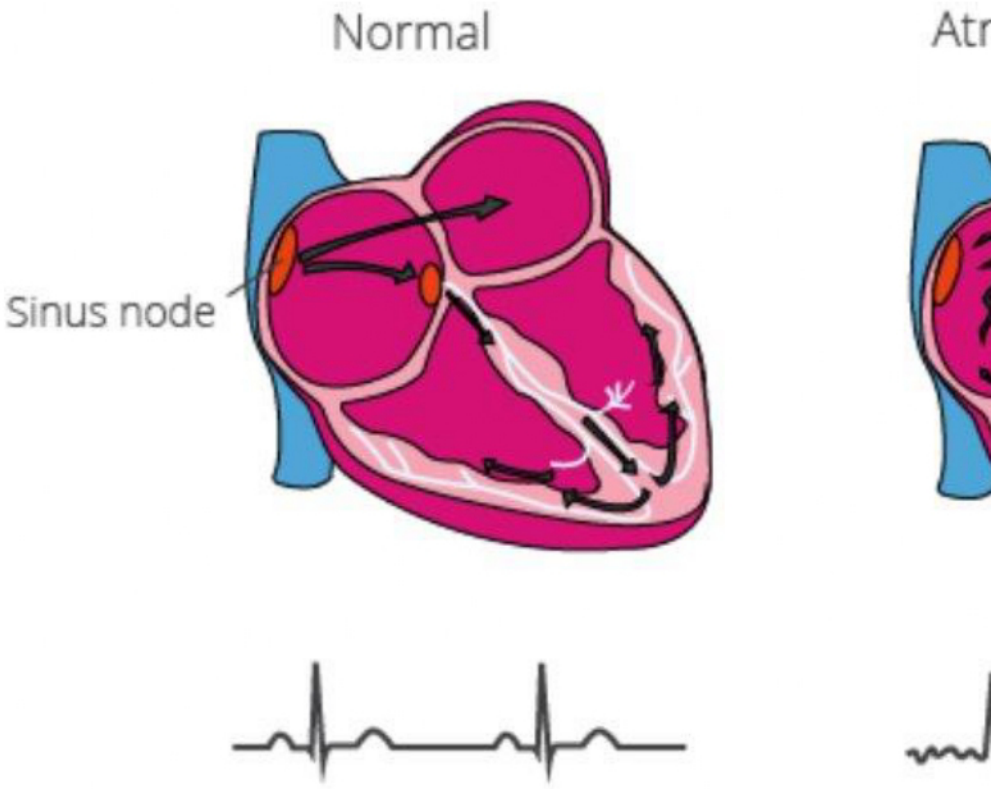
What Is a Normal Heartbeat?

- The heart has 4 chambers — top (atria) and bottom (ventricles).
- Normally, the heartbeat is steady and regular.
- Electrical signals keep the rhythm in sync.



What Happens in Atrial Fibrillation

- In AFib, the top chambers beat fast and chaotically.
- The heartbeat becomes irregular — sometimes fast, sometimes slow.
- The heart loses its regular coordination.



Why AFib Matters

- Fast heart rates ok short-term, but can weaken heart long-term
- People may not feel well in afib
- Blood can pool in the heart and form clots.
- Clots can travel to the brain and cause a stroke.
- AFib increases stroke risk fivefold.
- 1 in 5 strokes is related to AFib.

Other Risks & Symptoms

- Symptoms: fluttering, irregular pulse, fatigue, dizziness, shortness of breath.
- Some people feel nothing at all.
- Over time, AFib can weaken the heart.

How to Detect AFib

- Feel your pulse: is it irregular or skippi
- Home BP monitors may show an irregu heartbeat.
- Smartwatches can detect irregular rhy
- See your doctor if your pulse feels off.

How We Treat AFib

Control the rhythm rate with medicine procedures.

Prevent stroke with blood thinners (anticoagulants).

Blood Thinners: Protecting from Stroke

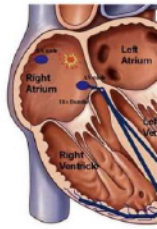
Common options: Warfarin, Eliquis, Xarelto, Pradaxa.

Aspirin is usually not enough

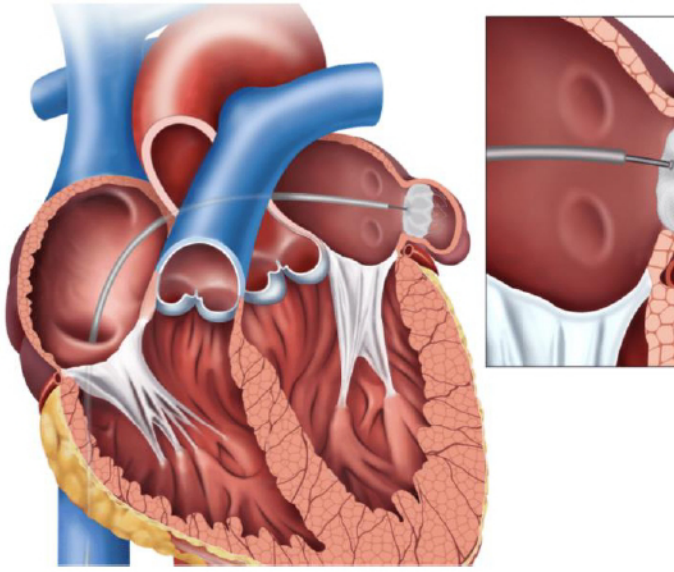
Benefits far outweigh bleeding risks for most people.

Plug the LAA

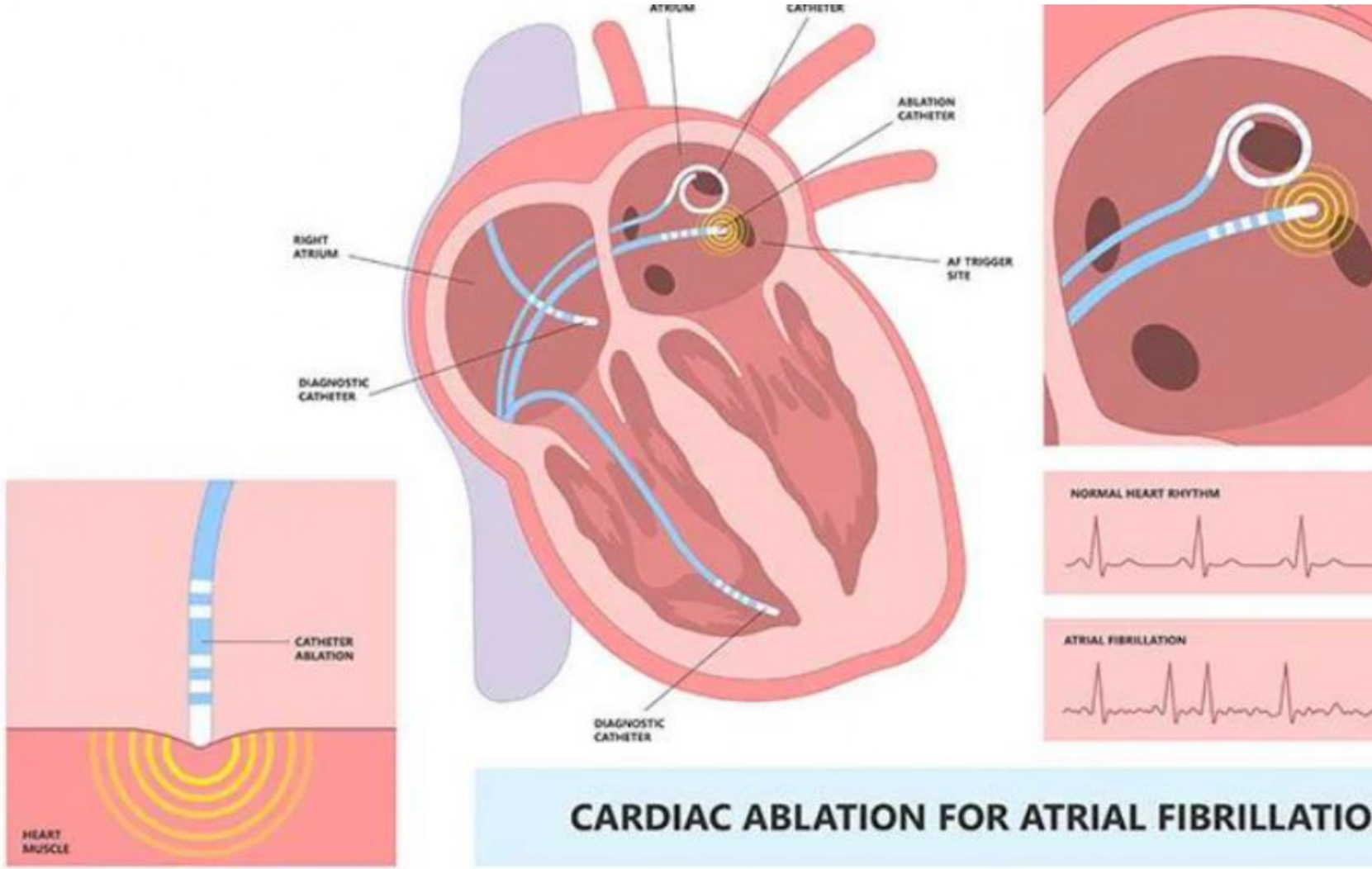
CHA_2DS_2-VASc - Stroke Risk in Atrial F



C Congestive heart failure
H Hypertension
A_2 Age ≥ 75 (2 points)
D Diabetes mellitus
S_2 Stroke / TIA / Thromboembolism
V Vascular disease (MI, PAD, aortic plaqu
A Age 65–74 (1 point)
Sc Sex Category female



Ablation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DIAGNOSTIC CATHETER
CATHETER ABLATION
HEART MUSCLE
NORMAL HEART RHYTHM
ATRIAL FIBRILLATION
CARDIAC ABLATION FOR ATRIAL FIBRILLATIO

Living Well with AFib

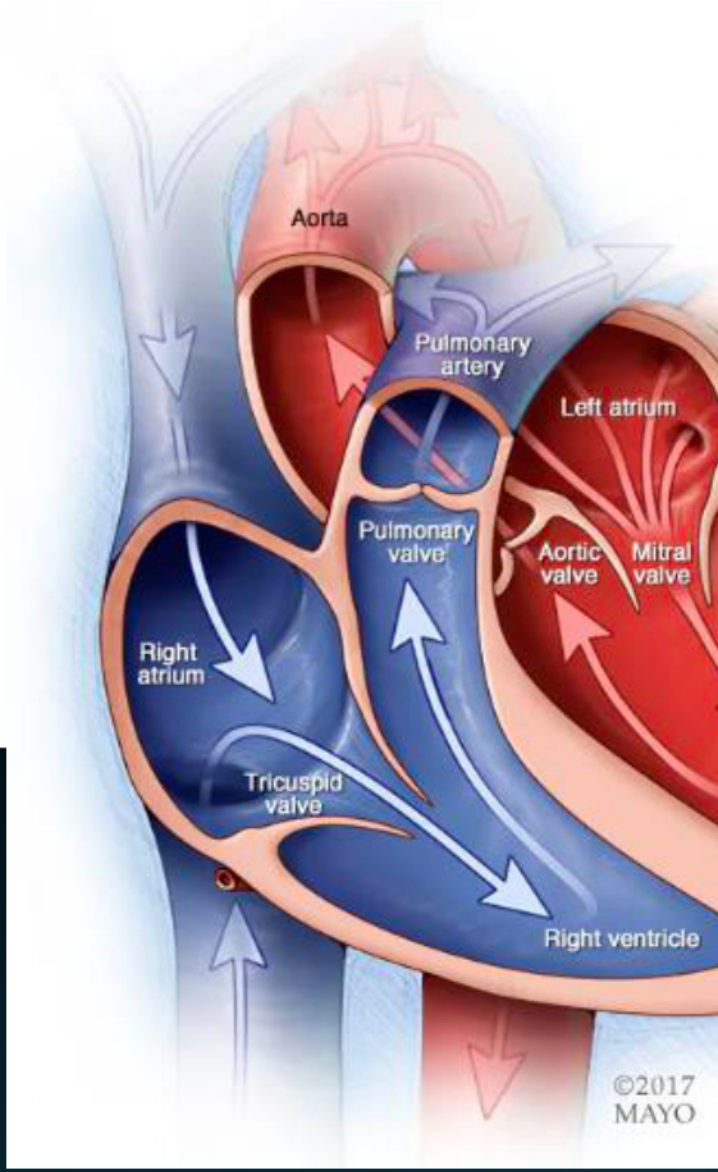
- Stay active and maintain healthy weight.
- Limit alcohol and caffeine.
- Manage blood pressure, diabetes, and sleep apnea
- Keep regular checkups.

Key Takeaways

- AFib = irregular, often fast heartbeat.
- It raises stroke risk — but str are preventable.
- Check your pulse and seek n advice if it’s irregular.
- Blood thinners save lives.

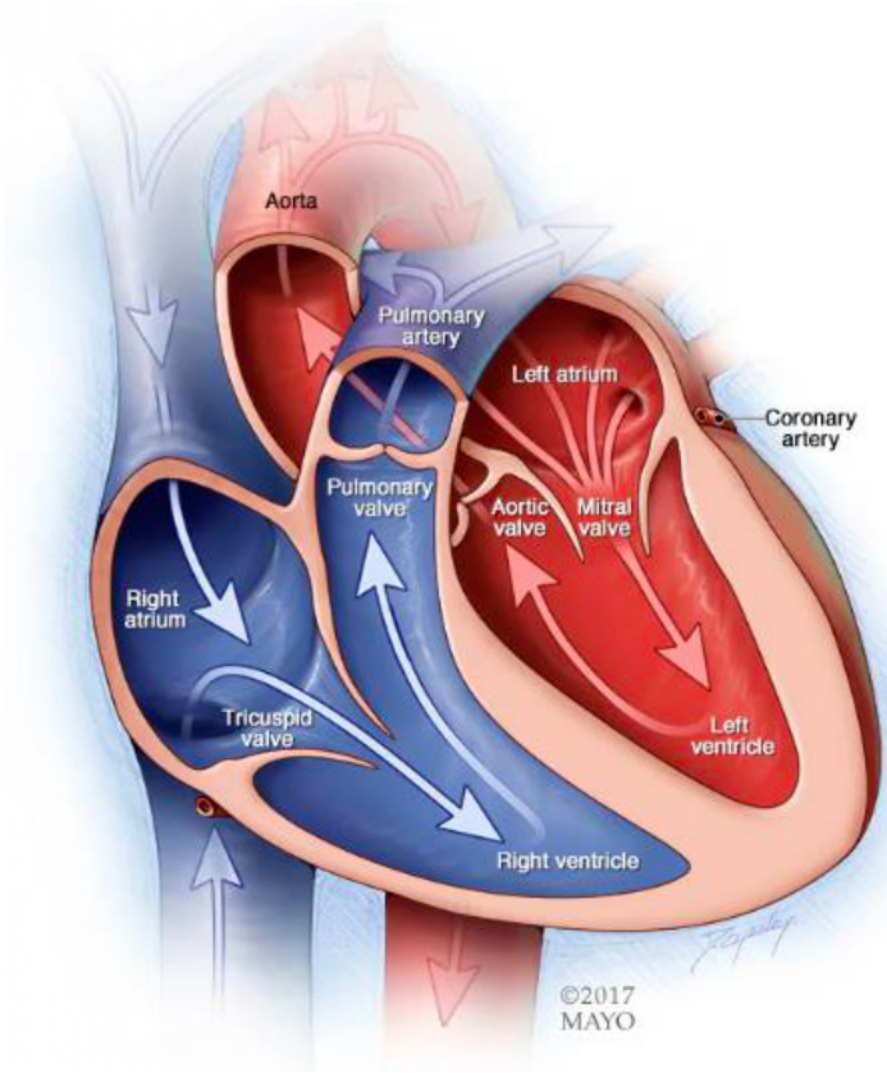
Aortic Stenosis

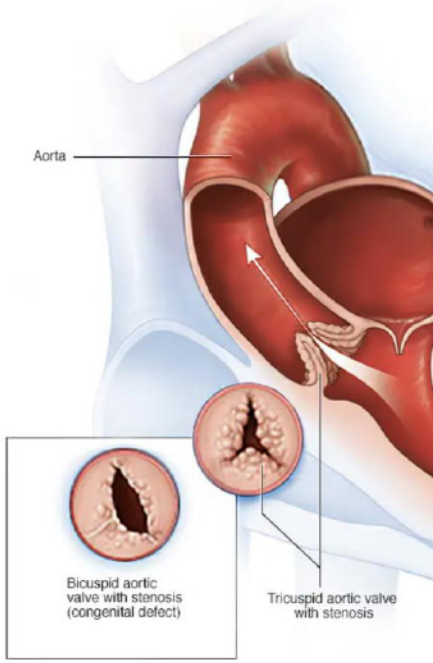
When the main door leaving the heart gets narrowed

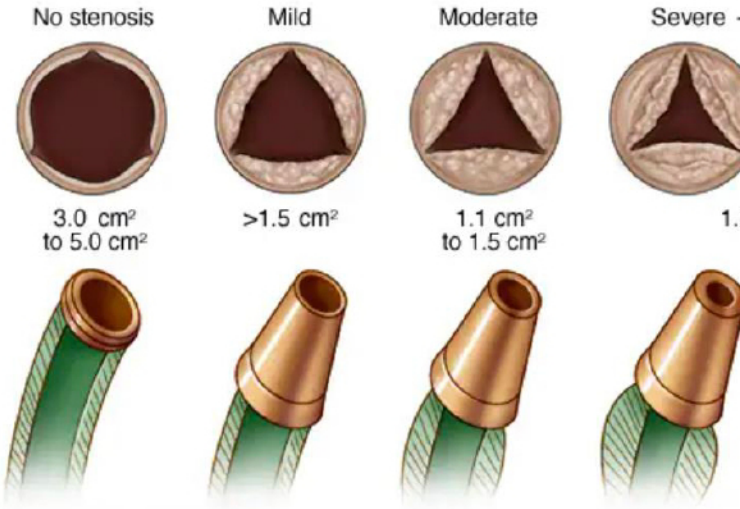


What Is the Aortic Valve?

- The heart has four valves that open and close with each beat.
- The aortic valve is the ‘door’ letting blood leave the heart to the body.
- Normally, this valve opens wide with each beat.





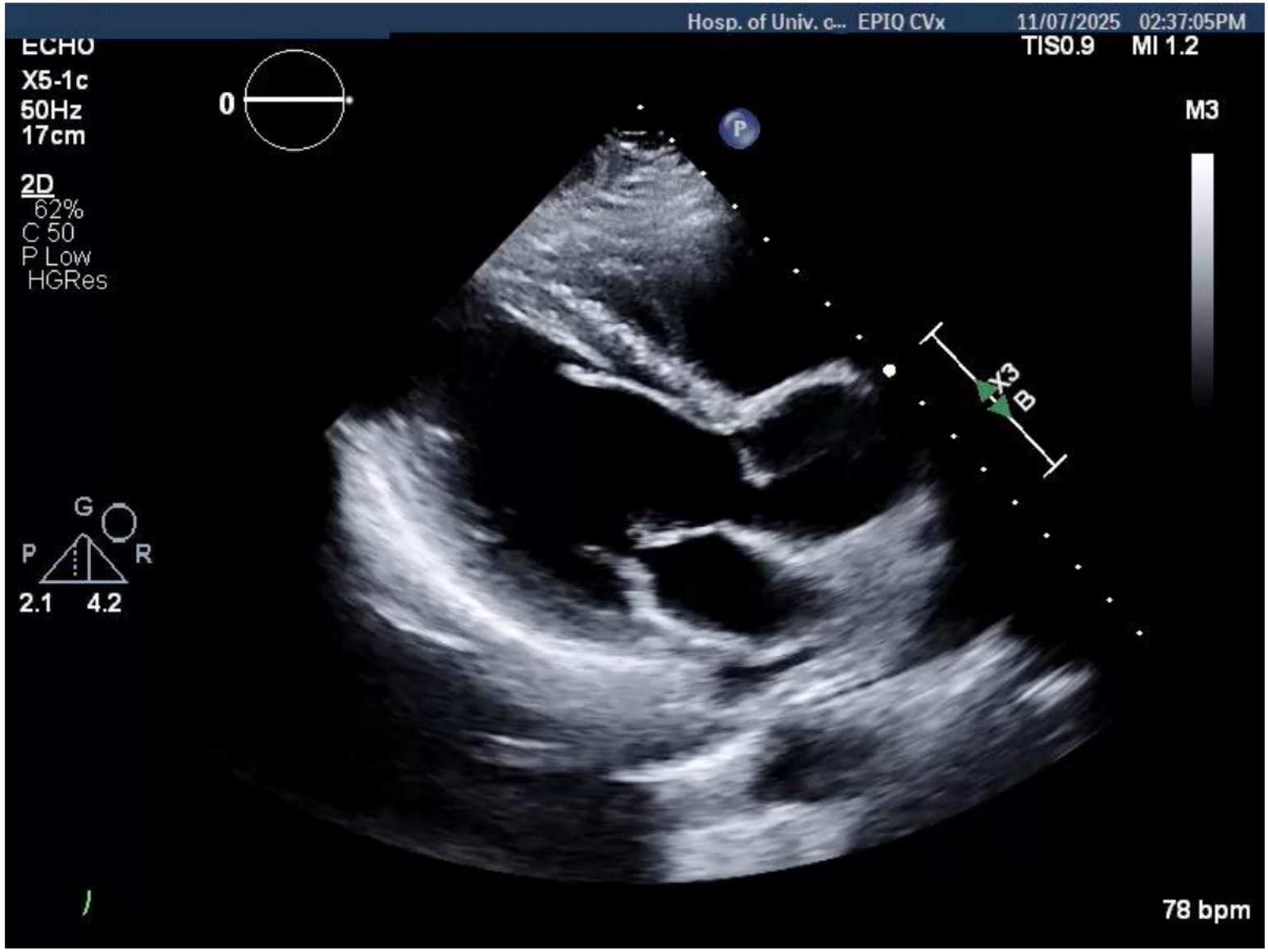


What Is Aortic Stenosis?

Over time, the valve can become stiff and narrow — often from calcium buildup.

When the valve can't open fully, the heart works harder to push blood through.

Common sy
chest pain, s
of breath, di
or fatig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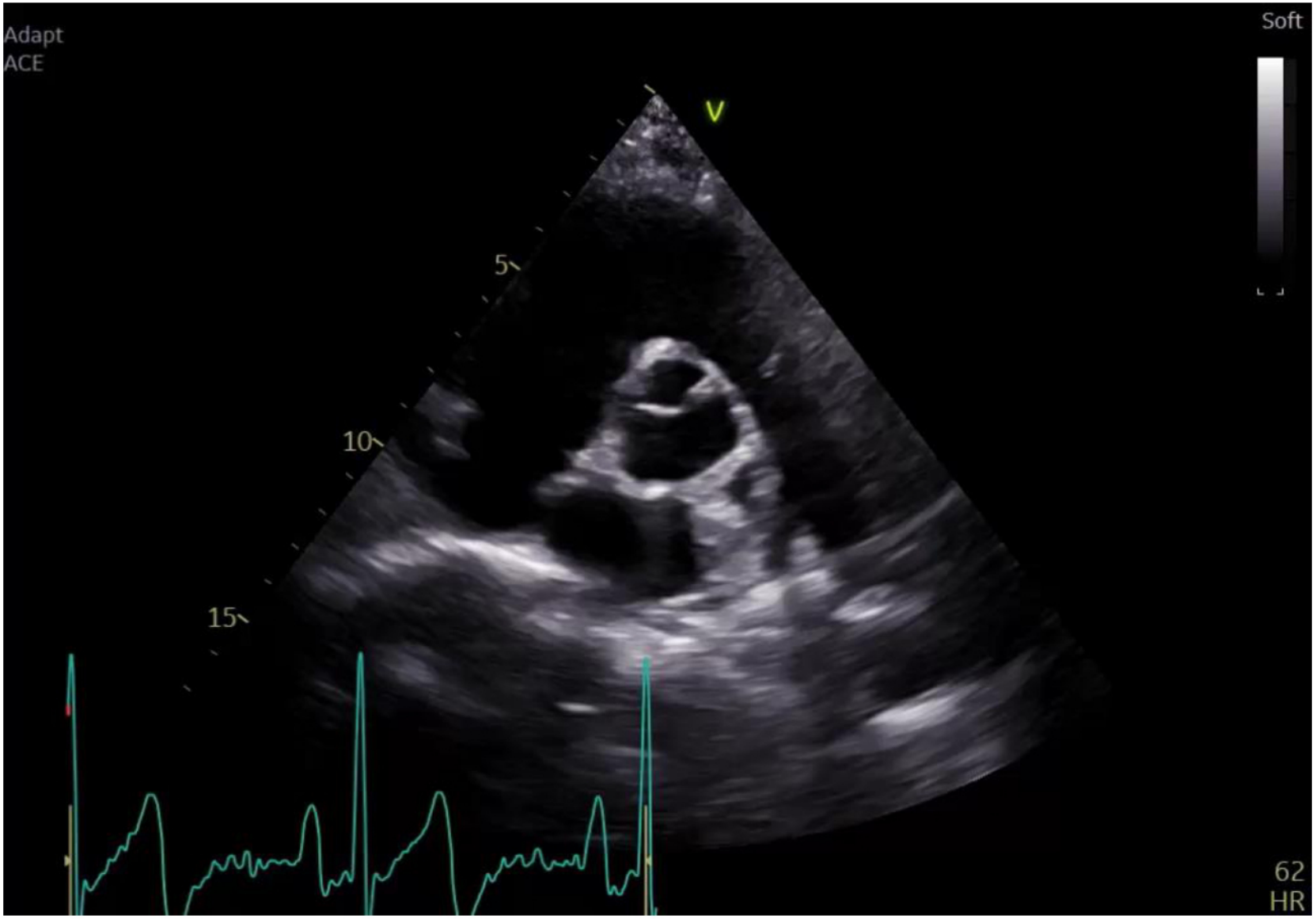
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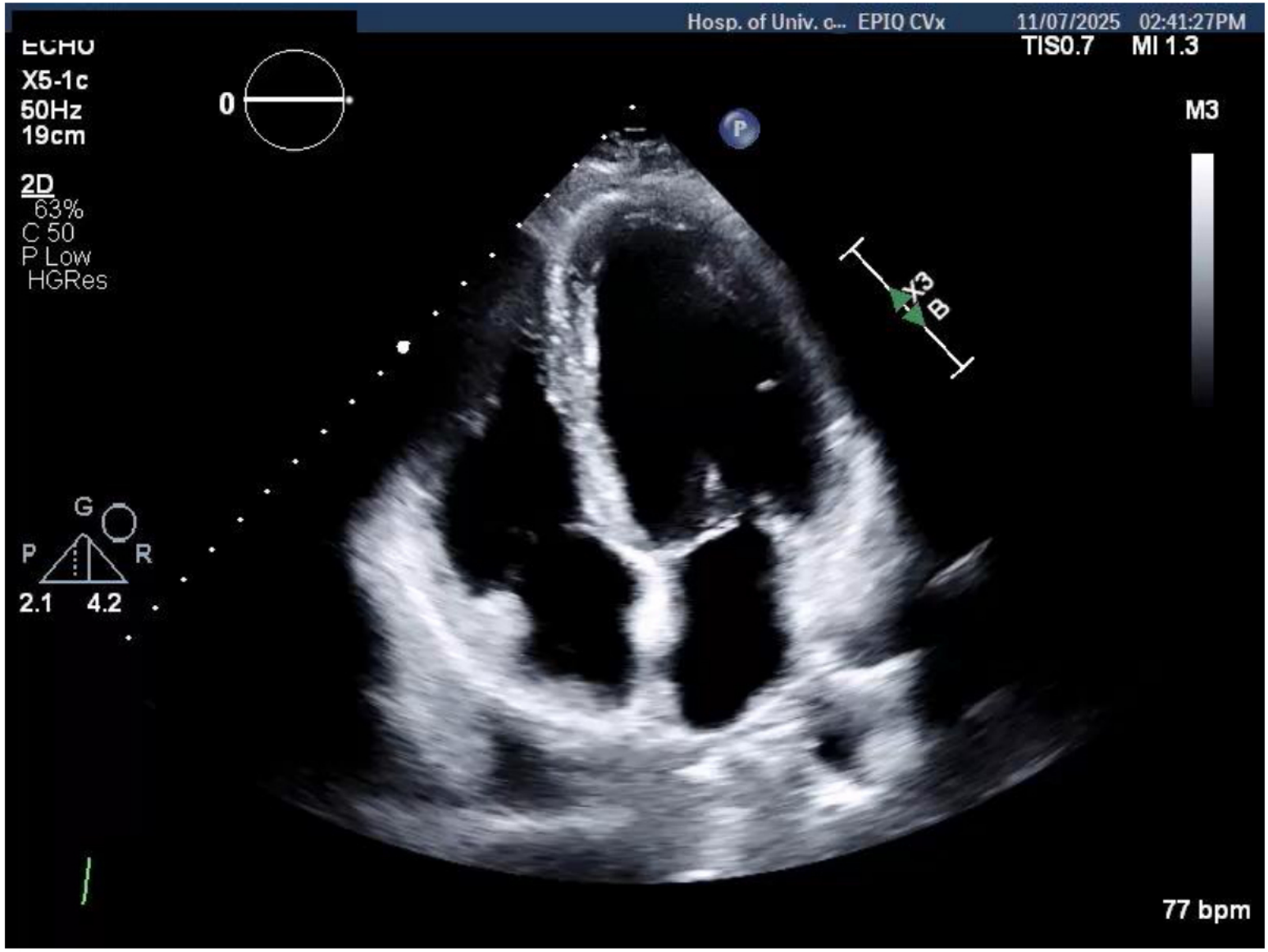
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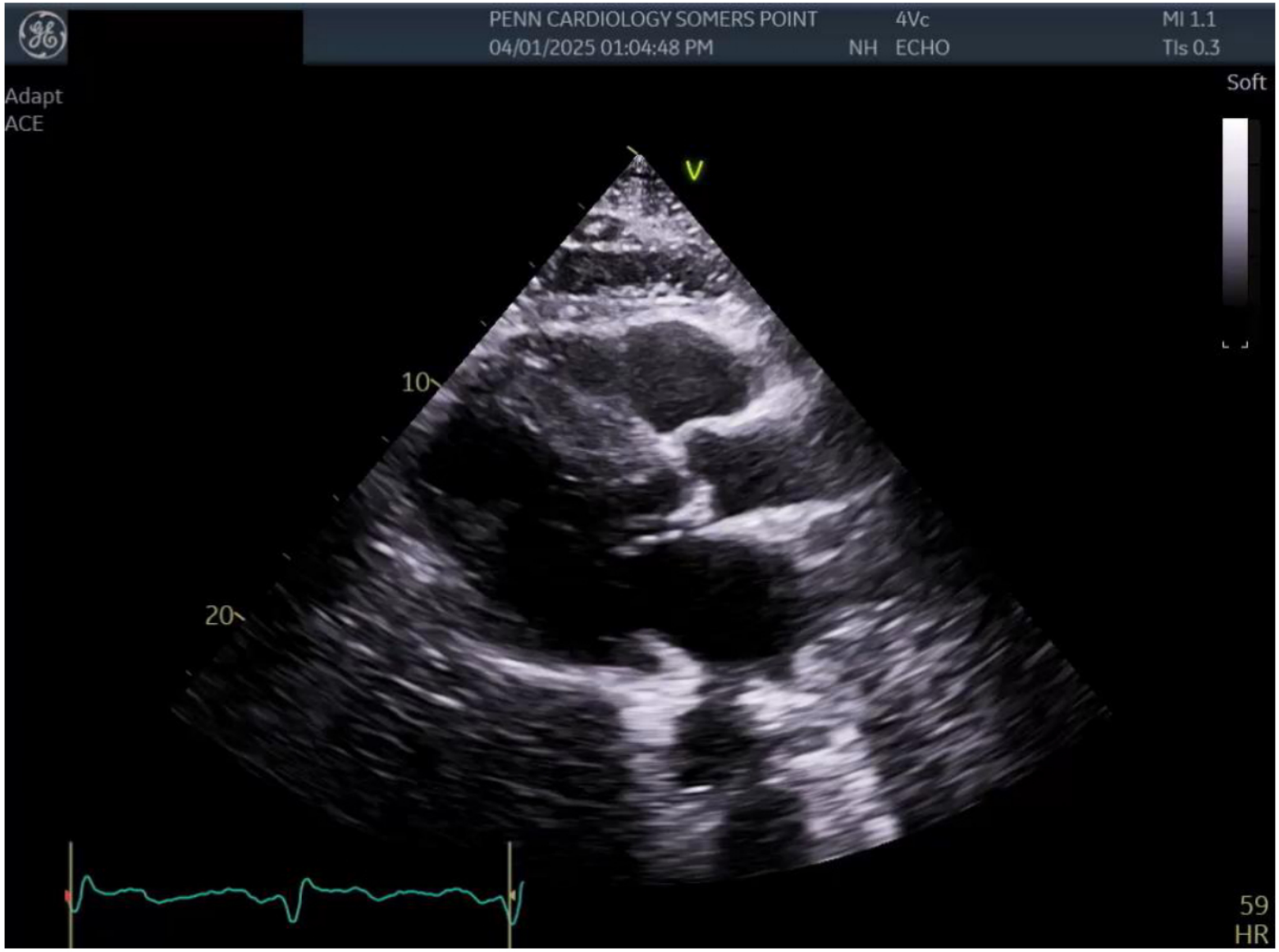
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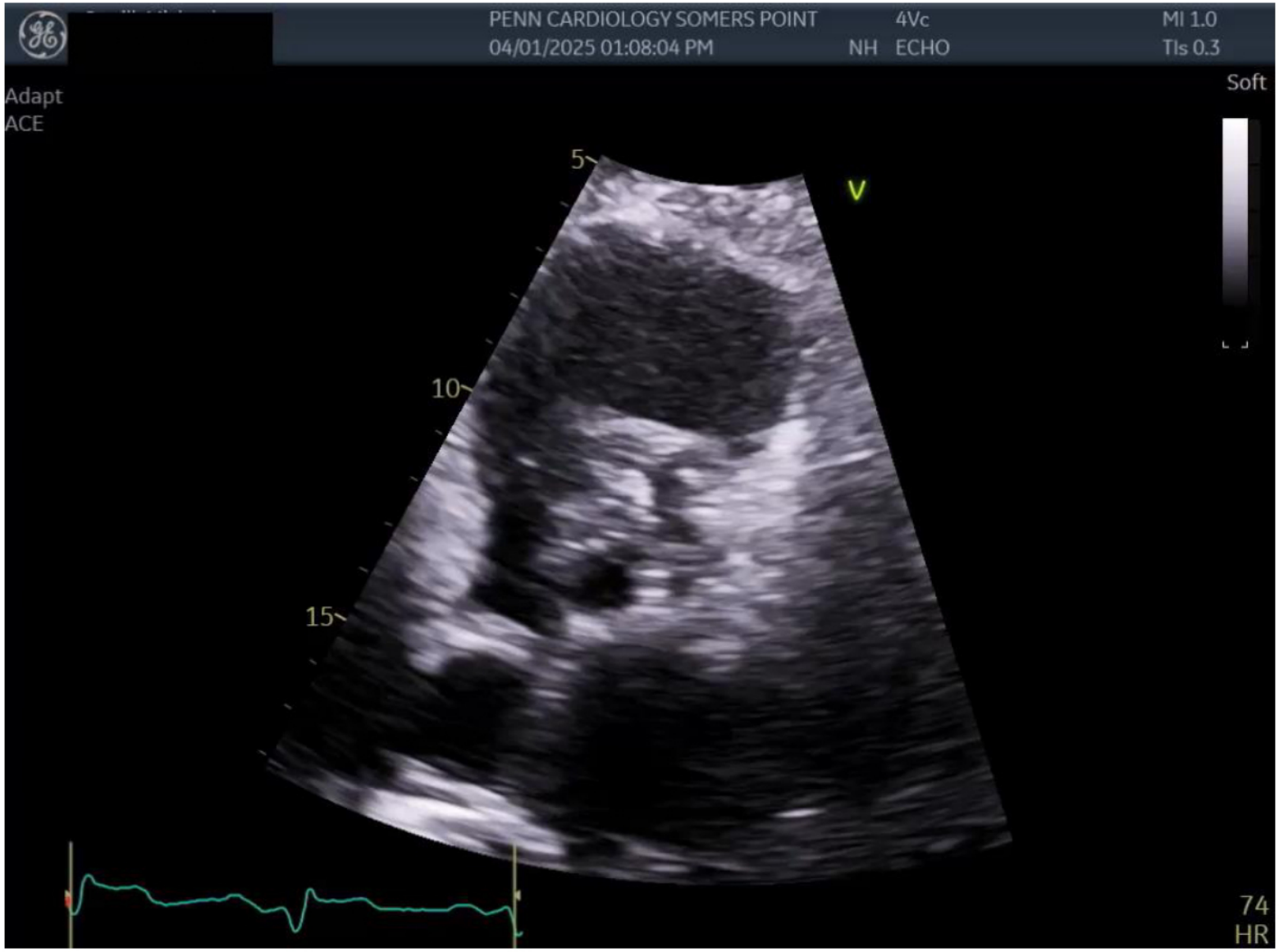
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TIs 0.3
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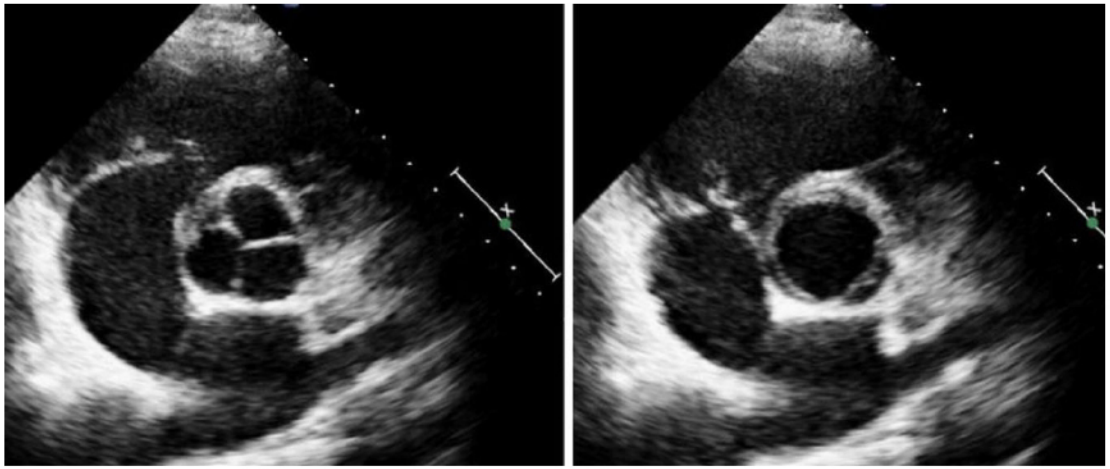
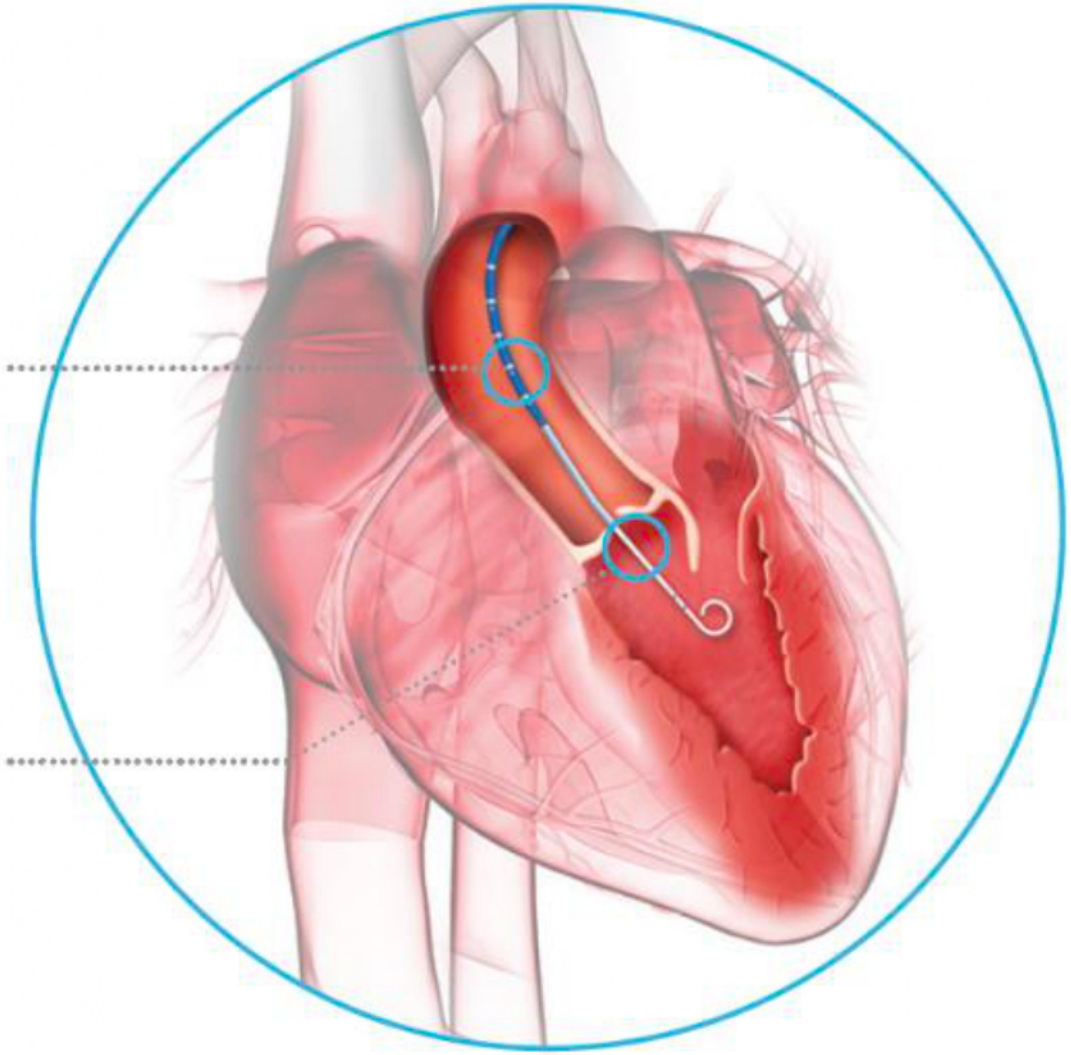
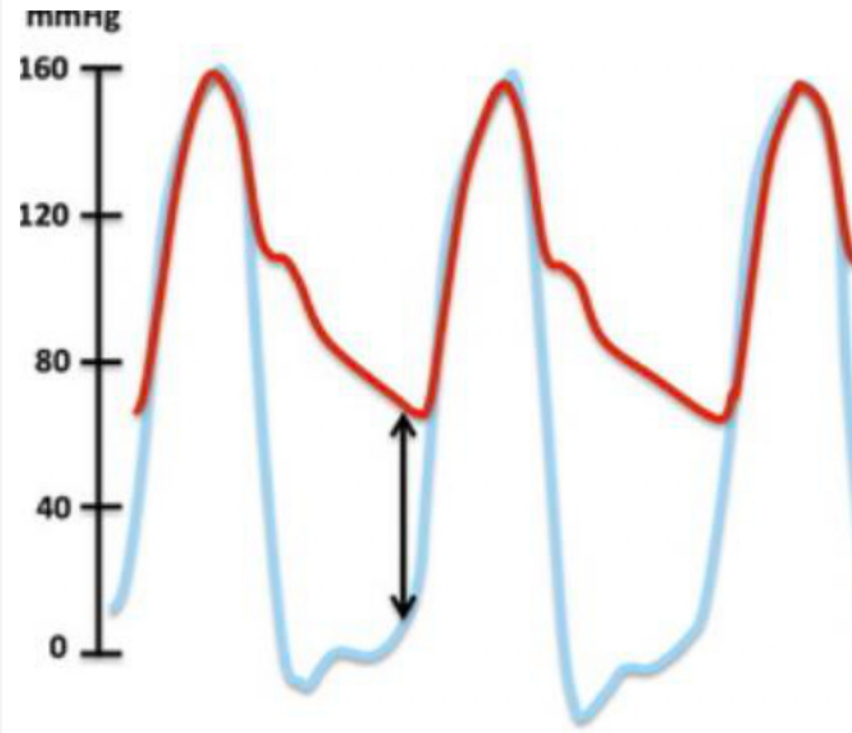
HR

How We Detect and Monitor It

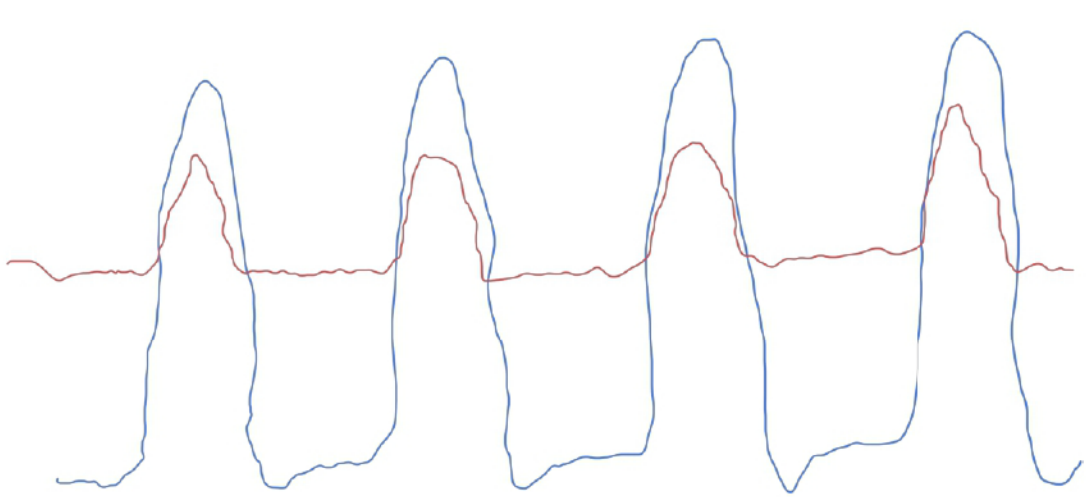
- Often found by hearing a murmur during a checkup.
- Confirmed with an echocardiogram (ultrasound of the heart).
  - Mild: echo every 1–2 years;
  - Moderate: 6–12 months;
  - Severe: consider treatment.
- Cardiac Catheterization






mmHg
160
120
80
40
0

WHICH ONE SHOWS AORTIC STENOSIS?



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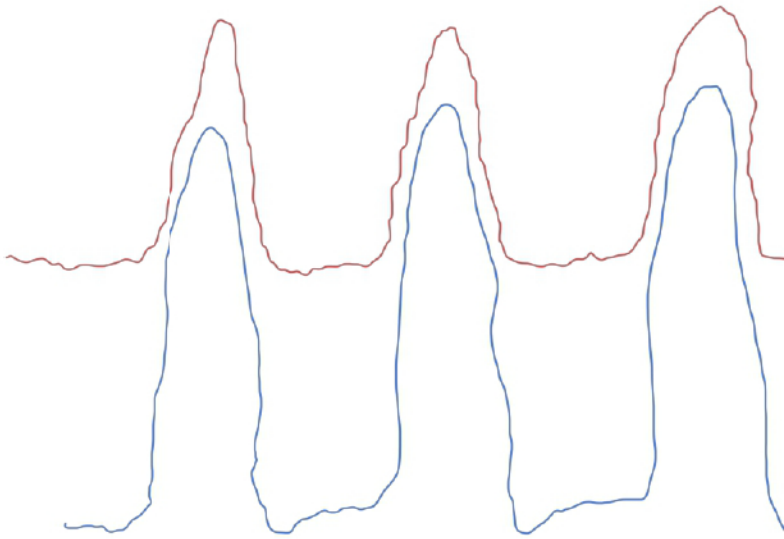

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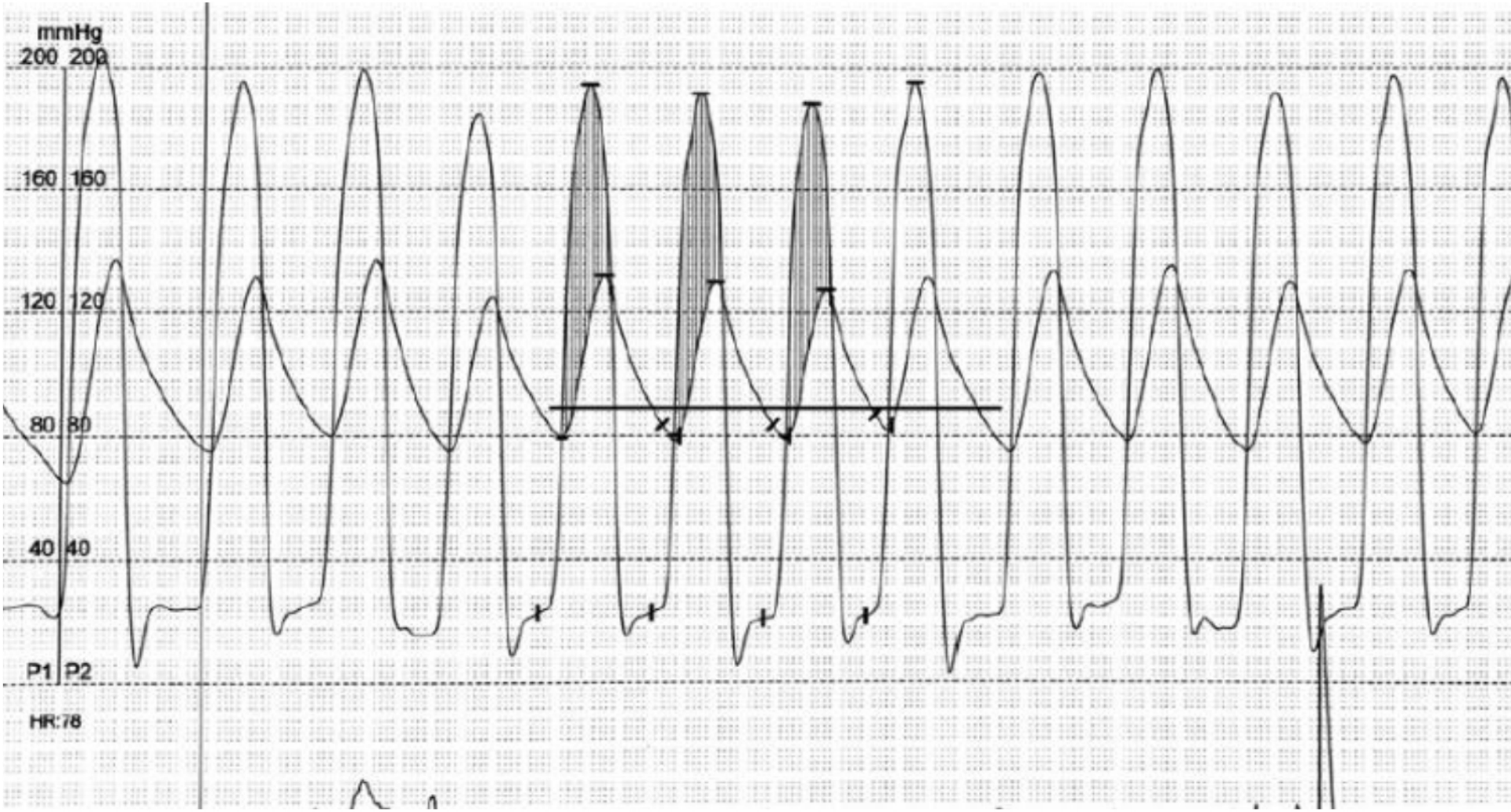
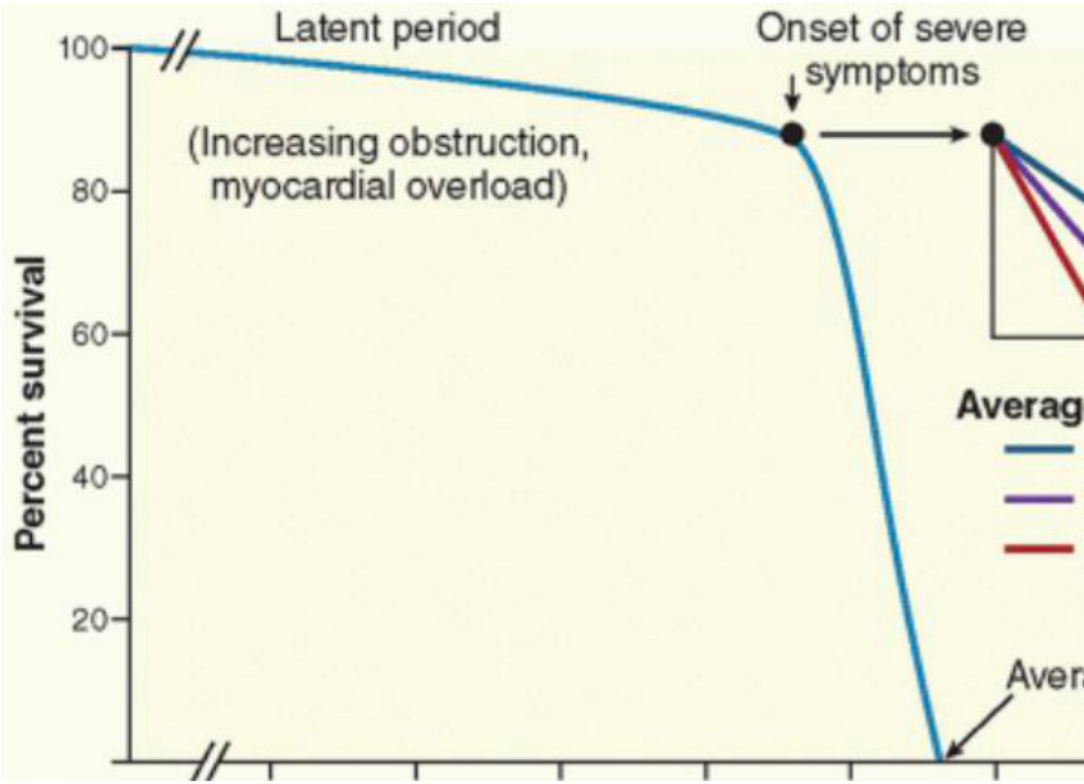

mmHg
200 200
160 160
120 120
80 80
40 40
P1 P2
HR:78

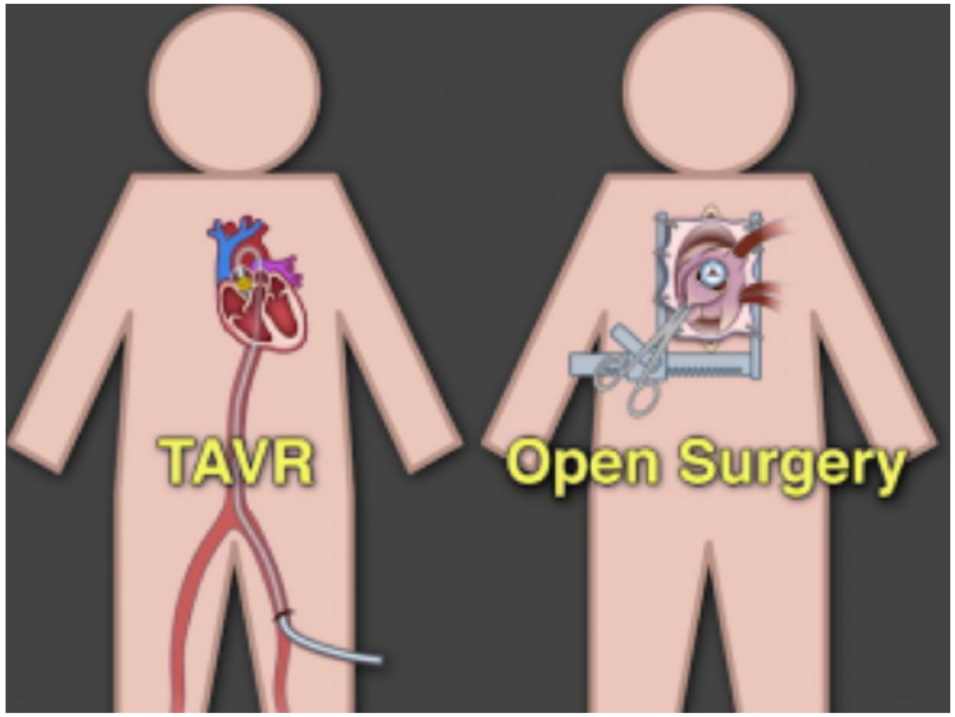
How It Progresses if Untreated

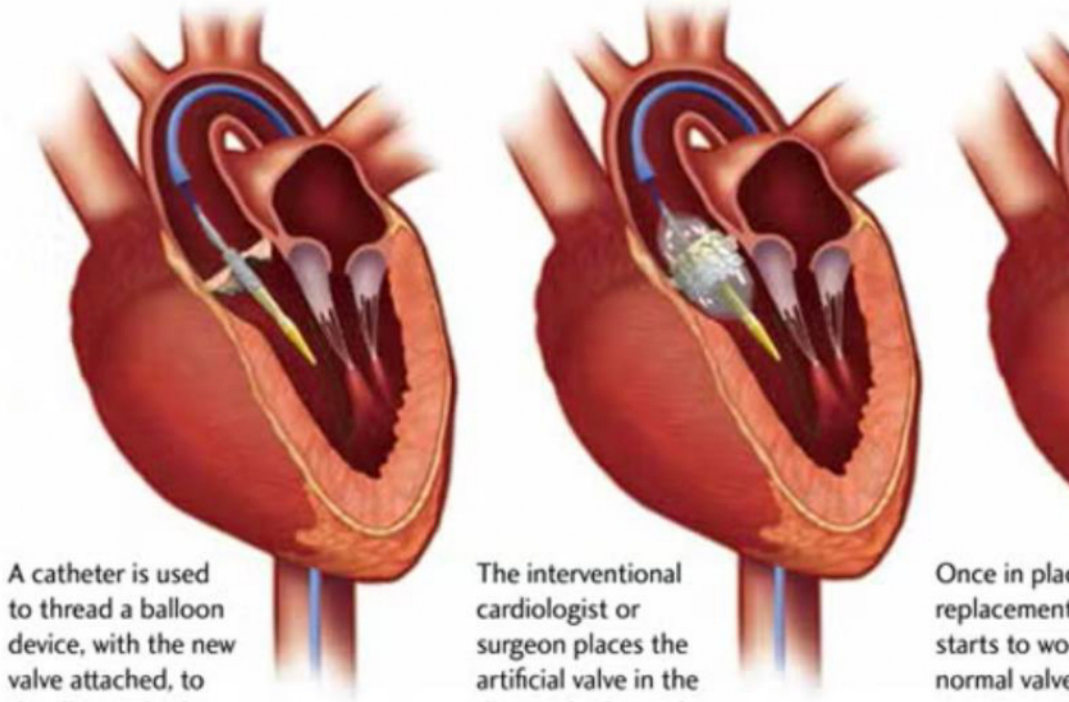
- The narrowing worsens gradually over years.
- The heart muscle thickens and weakens from overwork.
- Once symptoms develop, the risk of heart failure or sudden death rises.



How We Treat Aortic Stenosis

- Two main approaches: open-heart surgery or TAVR (minimally invasiv
- Surgery replaces the valve through the chest; good for healthy patien
- TAVR replaces the valve via a small leg artery — short recovery time.





A catheter is used to thread a balloon device, with the new valve attached, to the diseased valve.

The interventional cardiologist or surgeon places the artificial valve in the diseased valve and inflates the balloon.

Once in pla
replacement
starts to wo
normal valve

Results and Recovery

- Both surgery and TAVR relieve symptoms and extend life.
- Several factors going into making decision on what is best valve type
- Most patients feel stronger, less short of breath, and more energetic.
- Regular follow-up keeps the new valve working well.

Living with Aortic Stenosis

- Stay active (but avoid overexertion when it gets to more severe).
- Report new symptoms promptly (chest pain, breathlessness, fainting
- Keep blood pressure and cholesterol under control.
- Follow your doctor’s schedule for echocardiograms and checkups.

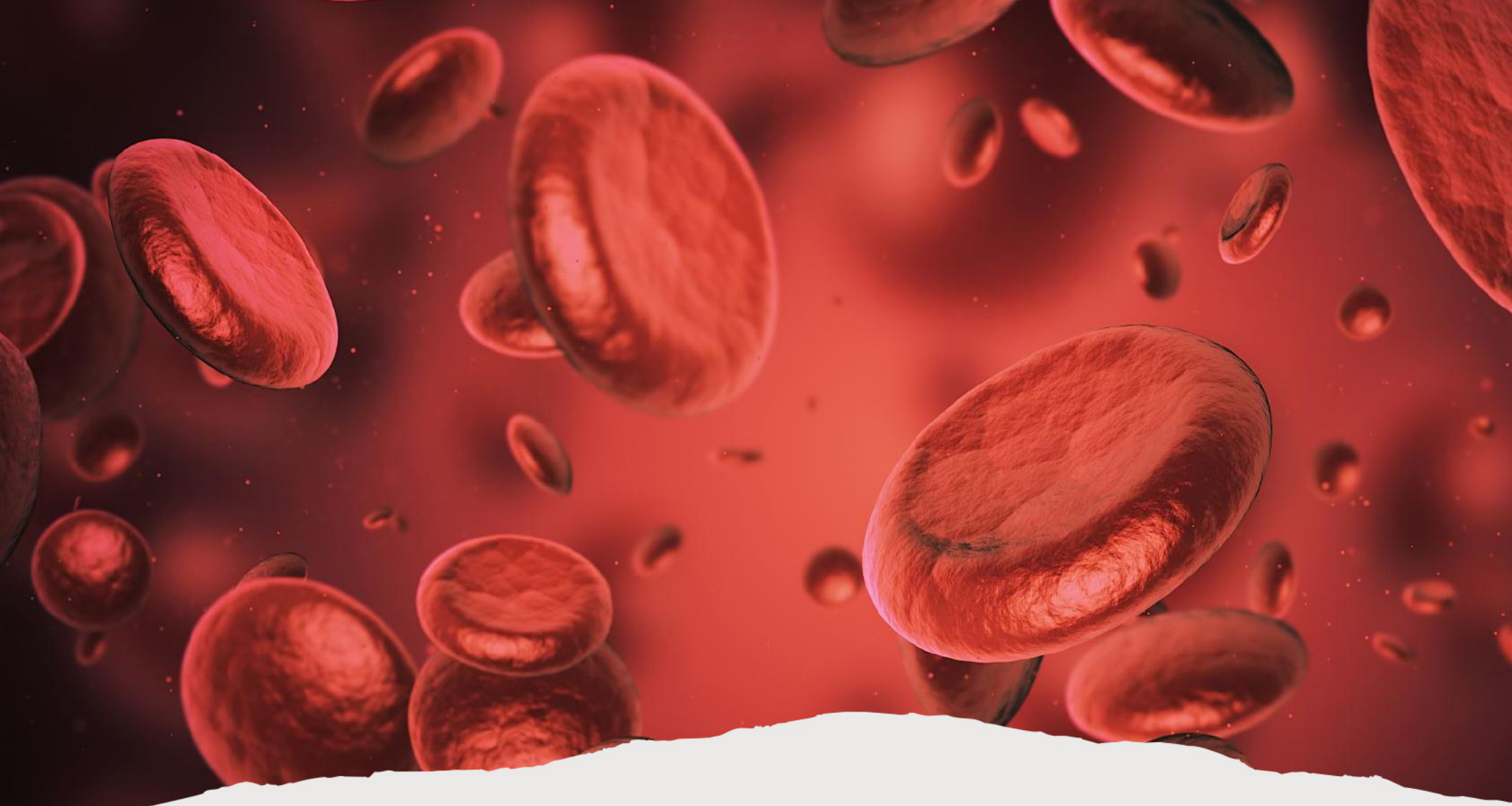
Key Takeaways

Aortic stenosis = narrowing he
valve that strains the heart.

It progresses slowly but becor
dangerous once symptoms ap

Echocardiograms allow safe,
monitoring.

Valve replacement (TAVR or su
restores strength and longevit

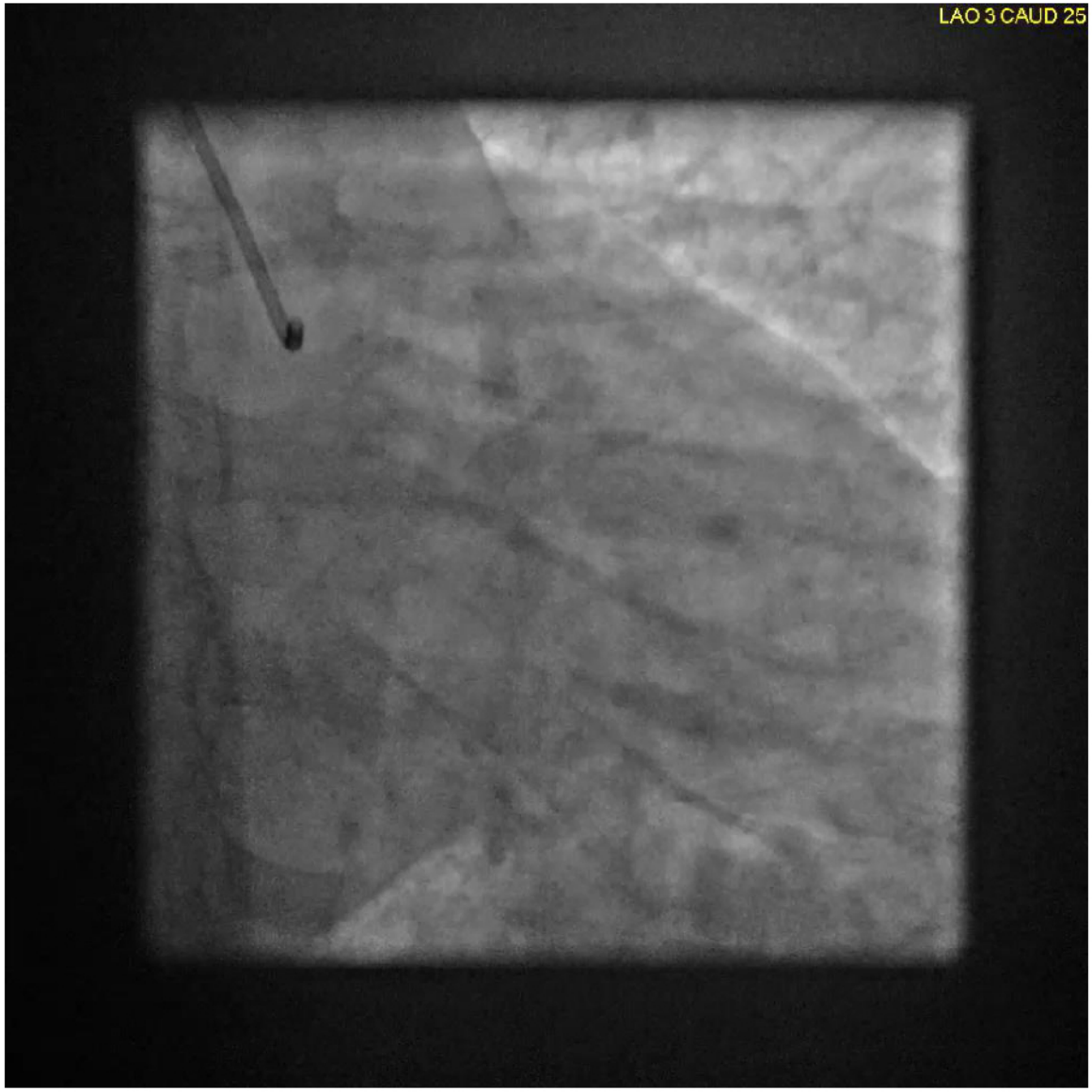


CORONARY ARTERY DISEASE

What Is Coronary Artery Disease?

- Your heart muscle needs blood, just like the rest of your body.
- CAD happens when the arteries that feed the heart get narrowed or blocked by buildup called plaque.
- This limits blood flow and oxygen to the heart muscle.

PATIENT 1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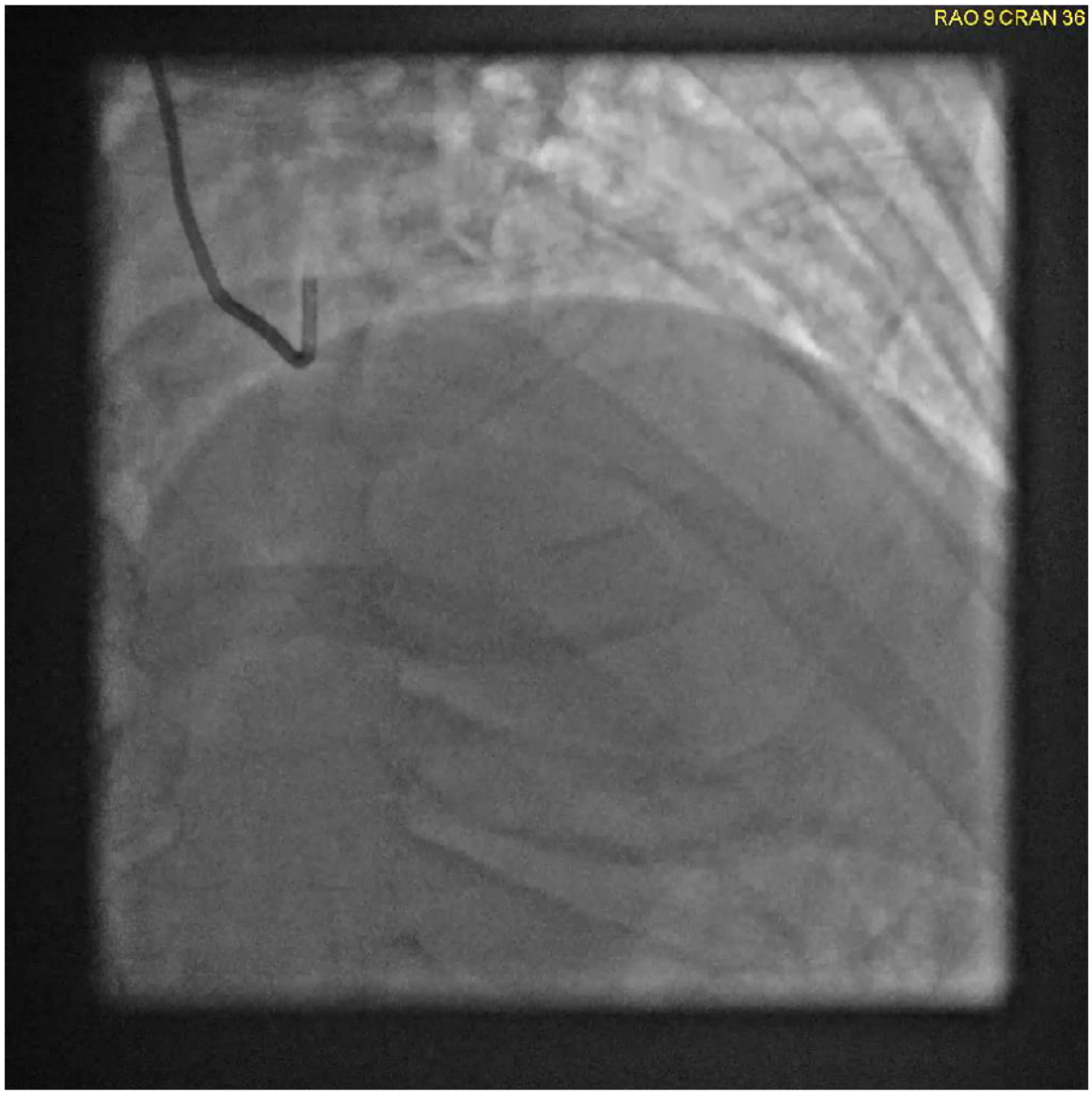
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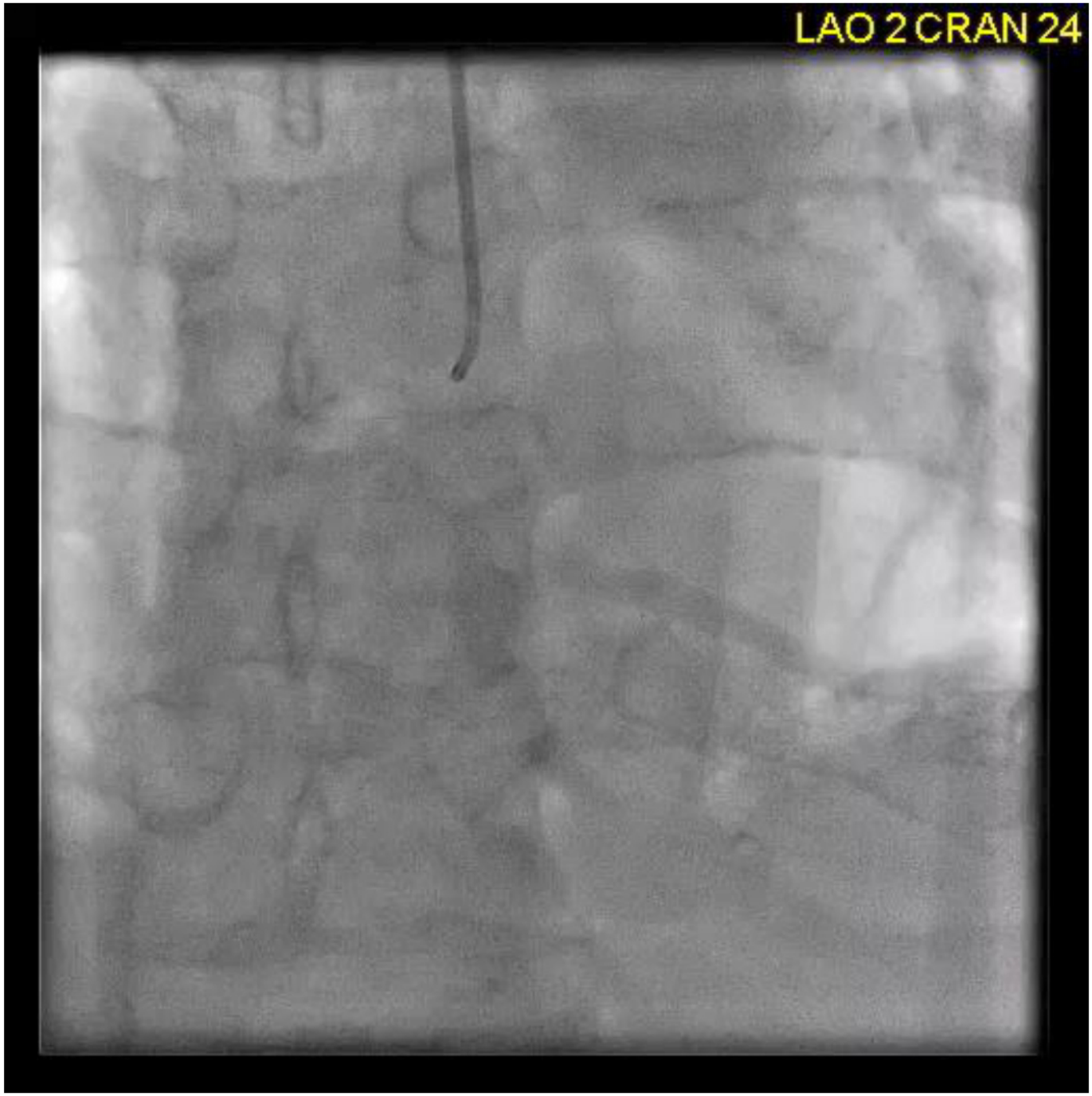
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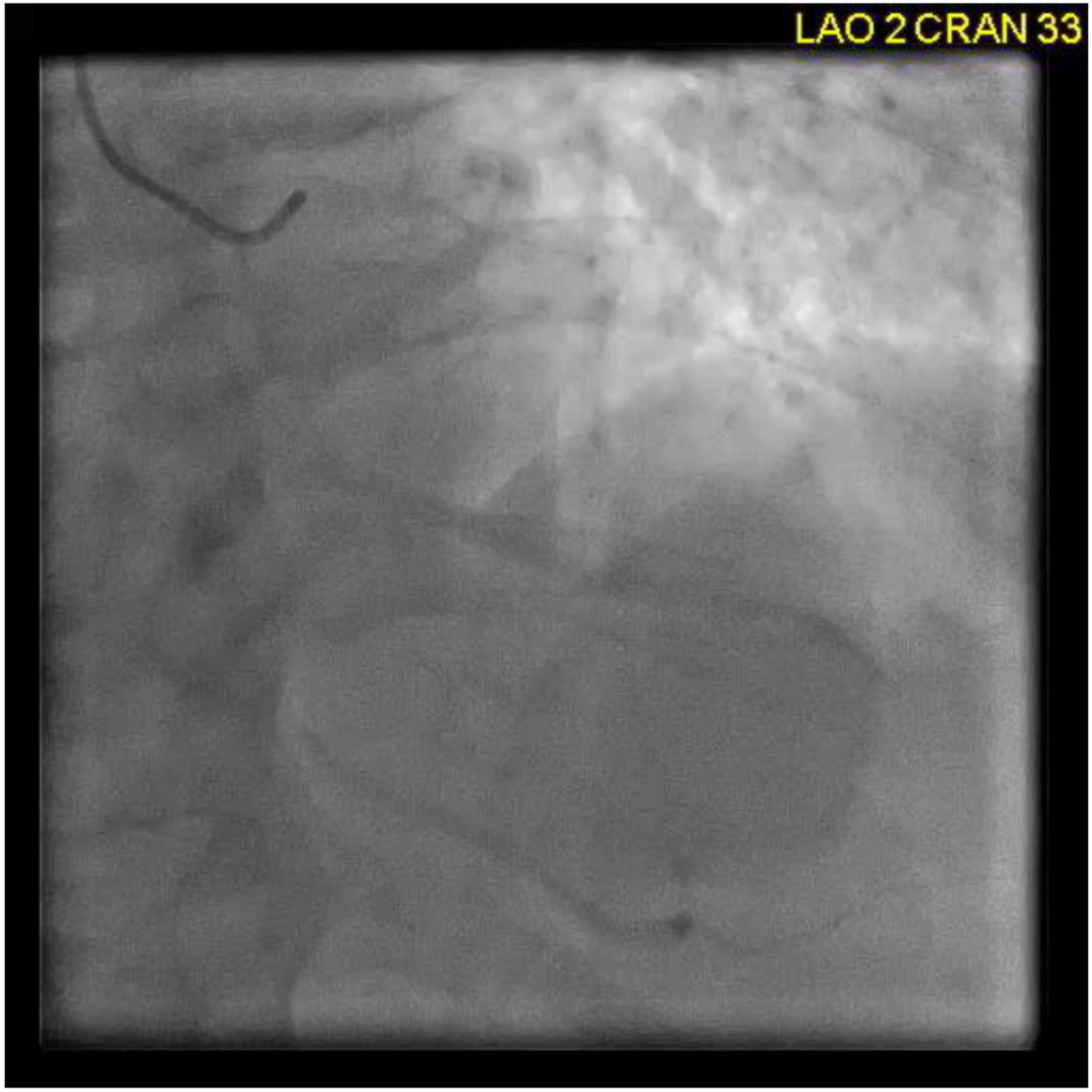
PATIENT 2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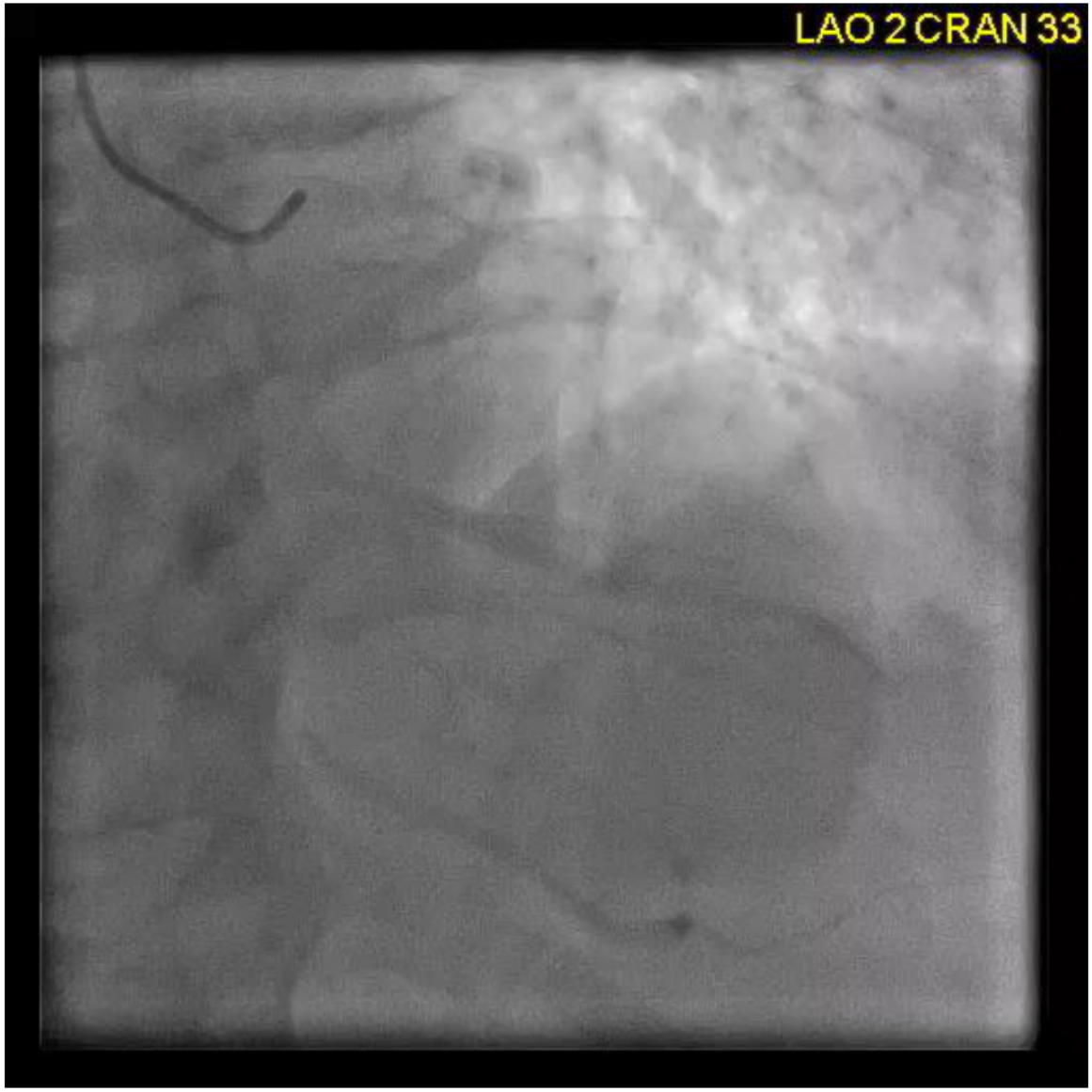
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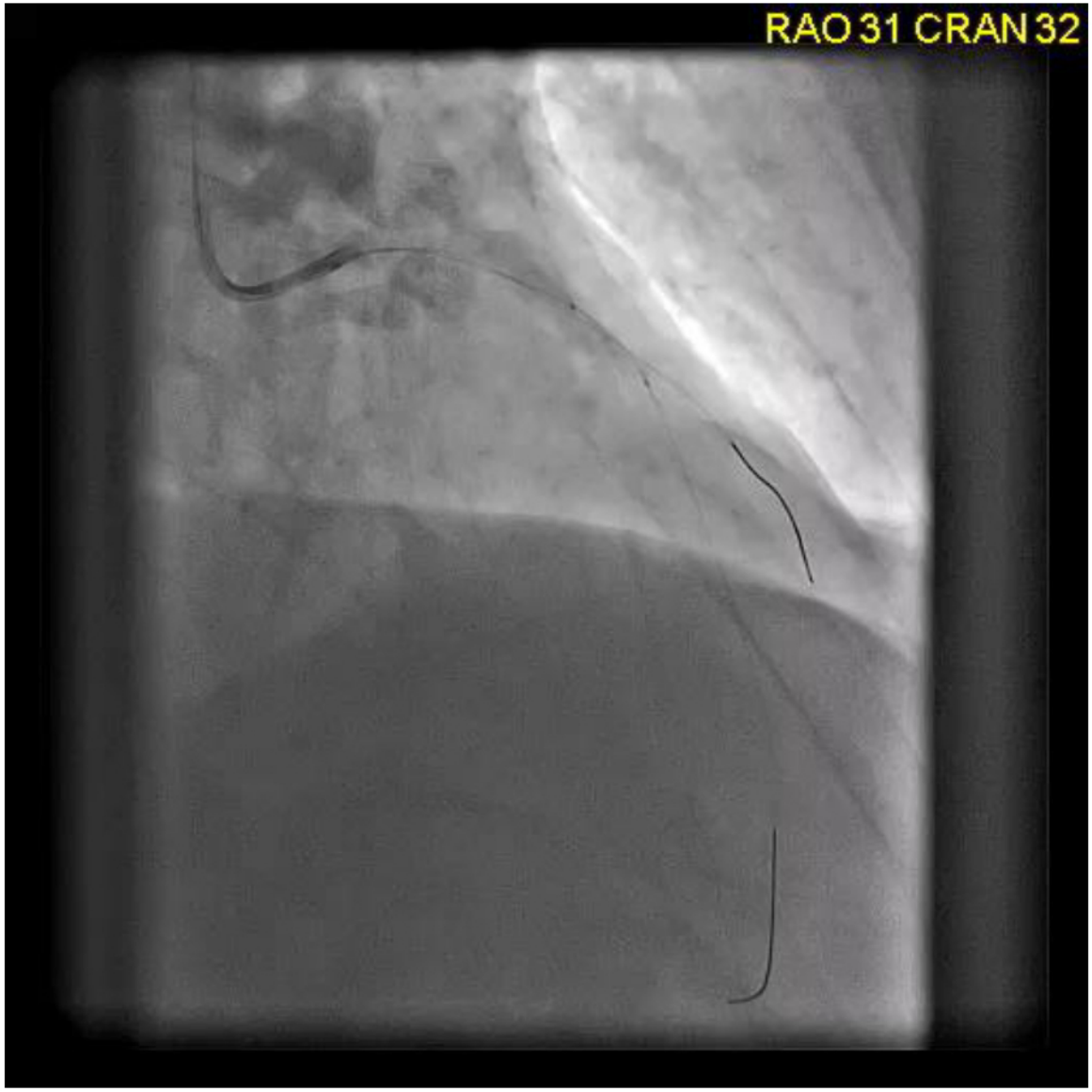
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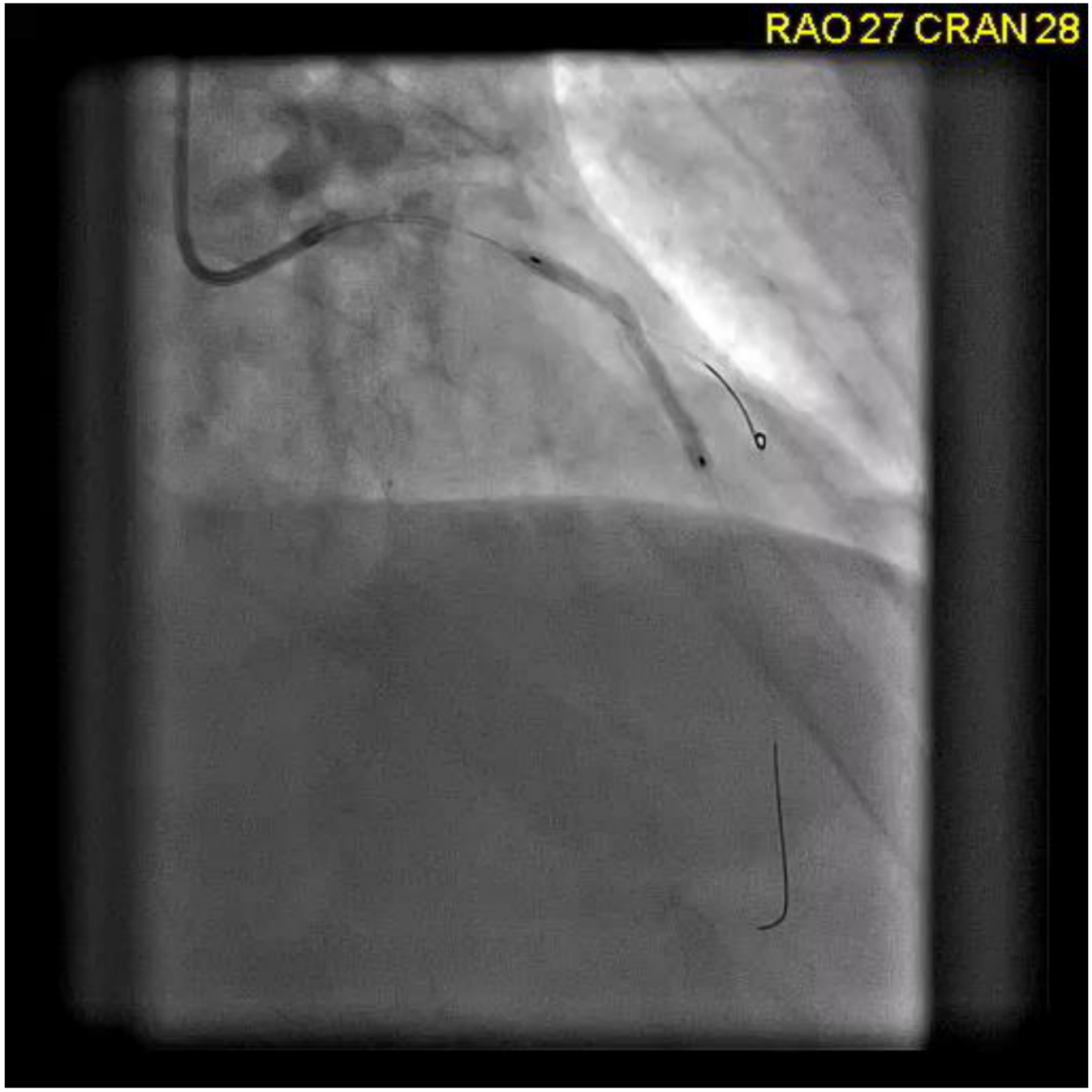
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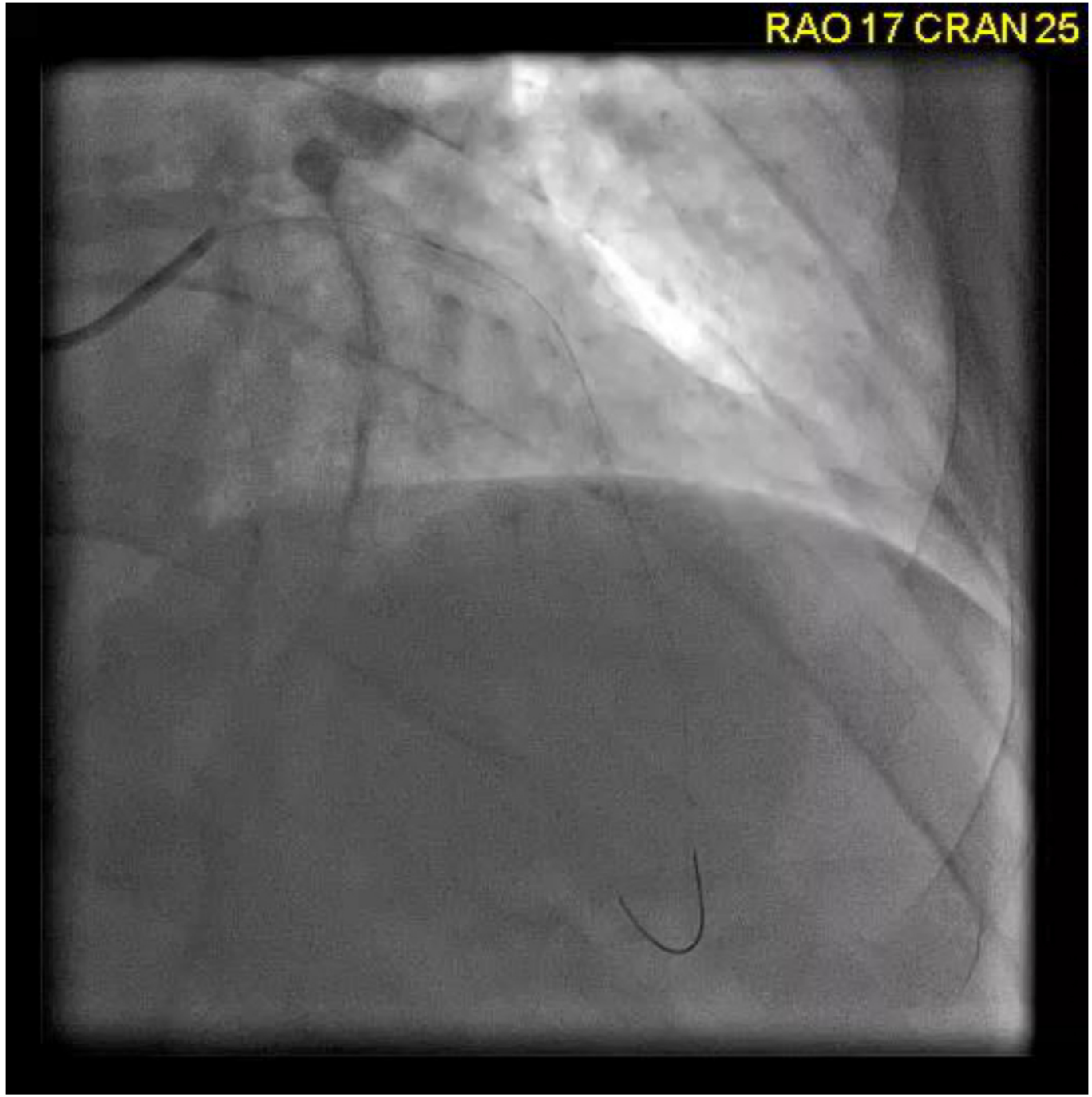

RAO 17 CRAN 25

Why Does It Matter?

- **When arteries are blocked: less oxygen reaches the heart.**
- **You may feel chest pain (angina), shortness of breath, or fatigue.**
- **If a blockage closes completely, a heart attack can occur.**
- **CAD is common, but very preventable and treatable.**

What Causes CAD?

Cholesterol buildup (plaque) in arteries.

High blood pressure

Diabetes.

Smoking and poor diet.

Family history and aging.

Lack of physi activity.

How Do We Detect It?

Symptoms: chest pressure, shortness of breath, or fatigu

Tests include: EKG, stress test, CT scan, or heart cathete

Goal: find blockages before a heart attack happens.

Preventing CAD

1

Stop smoking — it's never too late.

2

Eat heart-healthy foods: more fruits, veggies, and whole grains.

3

Exercise: aim for 30 minutes of walking most days.

4

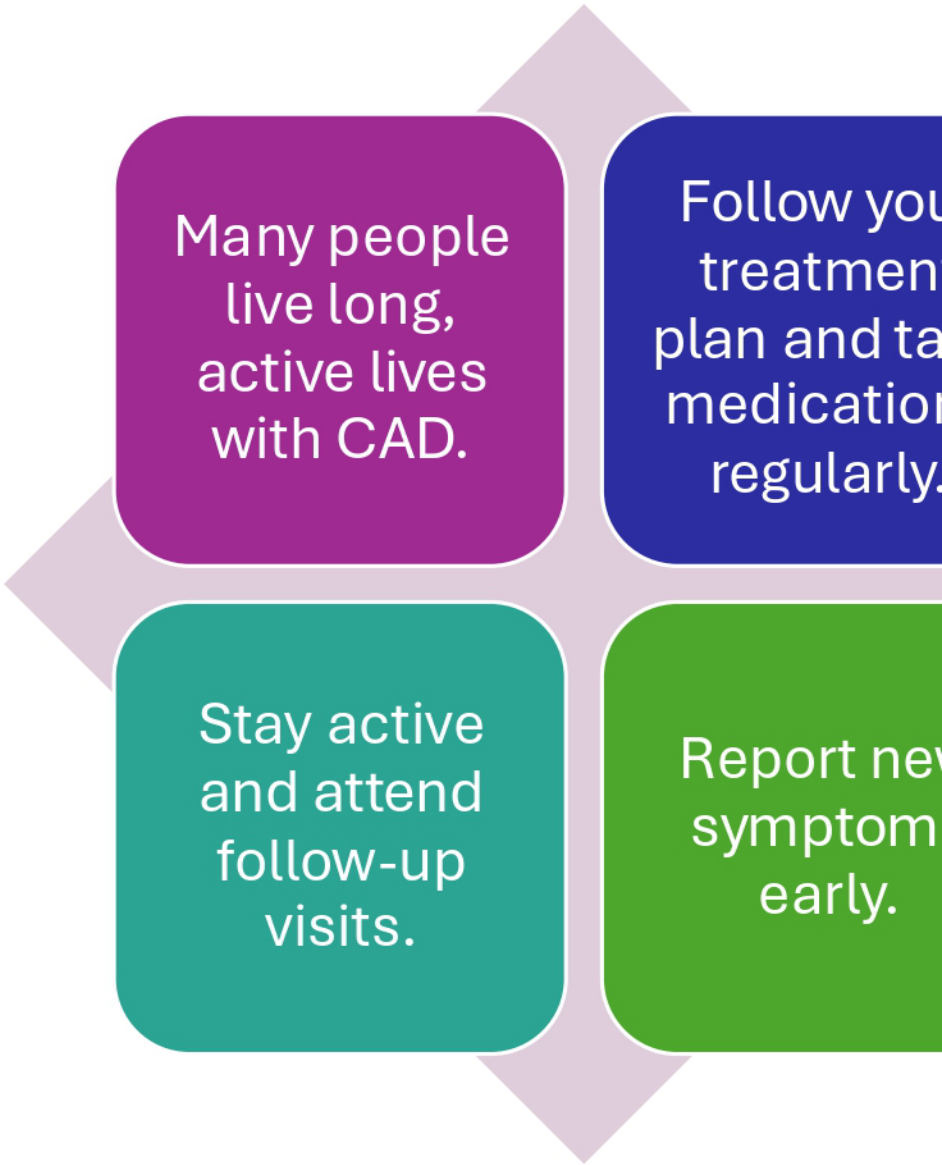
Control blood pressure, cholesterol, and diabetes.

Mai
wei

How We Treat CAD

- Medications: aspirin, statins, blood pressure control.
- Procedures: angioplasty/stent or bypass surgery.
- Goal: restore blood flow and prevent heart attacks.

Living Well With Heart Disease



Summary

- CAD = blocked heart arteries that limit bloo flow.
- It can cause chest pain or heart attack.
- Prevention through healthy habits is powerful.
- Treatments are very effective when needed.