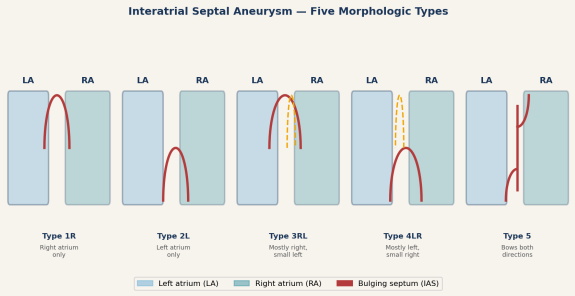
Understanding Atrial Septal Aneurysm (IAS / ASA)

A bulging wall between the heart's upper chambers. Often harmless, but sometimes linked to stroke.

Not the same as an aortic aneurysm. It does not burst. Most people never know they have it.



Online: https://go.riasalimd.com/ias-guide

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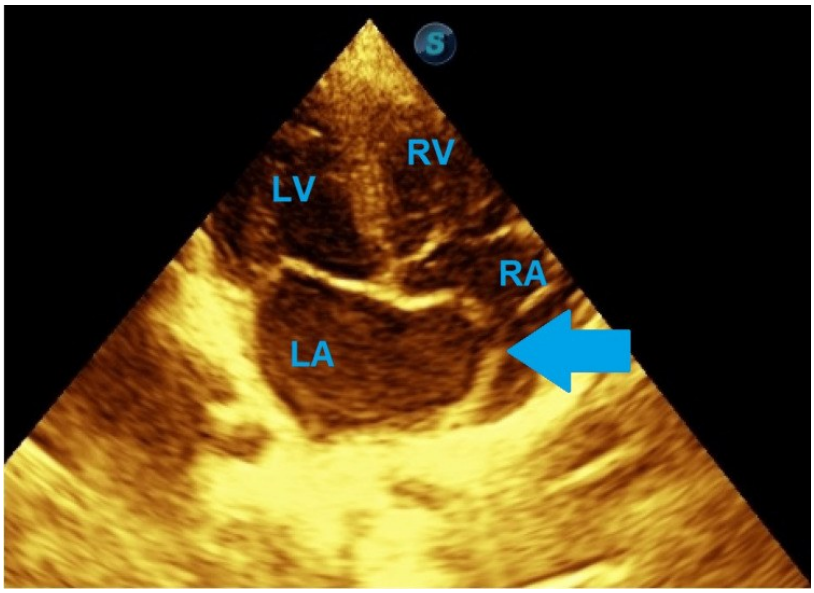
Names & Terms You Will Hear

Term	Meaning
Interatrial septal aneurysm (IAS)	The medical term. It means a bulging, floppy part of the thin wall between the heart's two upper chambers.
Atrial septal aneurysm (ASA)	The other short name. It means the same thing as IAS. Both names are used.
Interatrial septum	The thin wall that splits the left atrium from the right atrium. In IAS, this wall grows extra tissue, so it bows out.
PFO (Patent Foramen Ovale)	A small flap-like hole in the same wall. It should close after birth. About 75% of people with IAS also have a PFO. Together they raise stroke risk.
Cryptogenic stroke	A stroke with no clear cause, even after a full work-up. IAS plus PFO is one known cause. A clot can slip through the PFO and reach the brain.
Echocardiogram	An ultrasound of the heart. IAS is almost always found this way. It can be a chest echo (TTE) or a closer view from the throat (TEE).
TEE (Transesophageal Echocardiogram)	A close-up heart ultrasound. A small probe goes down the food pipe, right behind the heart. It gives the clearest view of the wall and any PFO.

The reassuring big picture: Most atrial septal aneurysms are benign and found by accident, on a heart echo done for some other reason. The name sounds alarming, but IAS is a shape change in heart tissue, not a weak artery, and it does not burst.

What Is Atrial Septal Aneurysm (IAS / ASA)?

- An atrial septal aneurysm (ASA or IAS) is a floppy, bulging part of the wall between the two upper heart chambers. The wall bows out by at least 10 to 15 mm.
- It is a shape change, not a weak artery. Unlike a brain or aortic aneurysm, it does not burst. The wall here is made of extra tissue, not a weak vessel.
- There are five types, based on which way the wall bows. Type 1R bows right only. Type 2L bows left only. Type 3RL bows mostly right. Type 4LR bows mostly left. Type 5 bows both ways and has the highest clot risk.
- IAS affects about 1 to 2.5% of people. Most are born with it and never know. It is most often found by chance on a heart echo done for some other reason.
- About 75% of people with IAS also have a patent foramen ovale (PFO). A PFO is a flap-like hole in the same wall. IAS plus PFO carries a higher stroke risk than either one alone.



A real echocardiogram (four-chamber view) showing an interatrial septal aneurysm - the bulging septum (arrow) pushing into the right atrium (RA). LA = left atrium, LV = left ventricle, RV = right ventricle. Credit: Taha AK, Khayyal M, Sheta SS, Ismaiel MA. "Prenatal Detection of Interatrial Septal Aneurysm With Postnatal Follow-Up." Cureus. 2026;18(4):e106728. doi:10.7759/cureus.106728. CC BY 4.0.

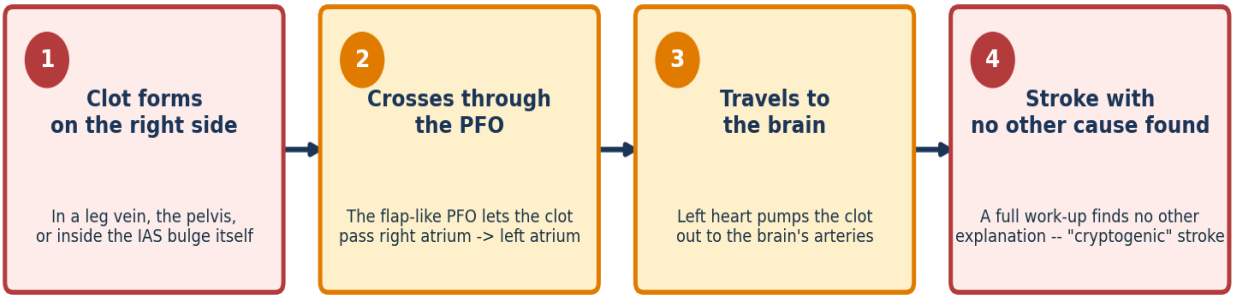
IAS Associations — What Each One Means for You

Finding	How often with IAS	Why it matters
PFO (patent foramen ovale)	About 75% of IAS cases	Opens a crossing route for a clot to reach the brain -- the main driver of stroke risk in IAS
ASD (atrial septal defect)	Uncommon; a different finding	A true hole, not a floppy wall. Usually needs its own separate work-up and, often, closure
Atrial fibrillation (AFib)	Higher rate than the general population	The floppy, moving wall can trigger extra beats; AFib plus IAS raises stroke risk a second way
Cryptogenic stroke / TIA	Seen more often when IAS + PFO are both present	IAS is a red-flag clue that helps point to the PFO as the likely stroke source

Why It Matters

- On its own, IAS is usually harmless. The main worry is that a blood clot can form in the bulge. That clot could then travel to the brain.
- The PFO-ASA study (NEJM 2001) followed people for 4 years. Those with both IAS and a PFO had a 15 times higher rate of a second stroke than people with neither.
- Doctors use IAS as a high-risk clue. It helps show whether a PFO likely caused a stroke. It raises the RoPE score and tips the choice toward closing the PFO.
- When IAS is alone, with no PFO and no past stroke, the long-term outlook is good. Most people just need watchful follow-up, not a procedure.
- Migraine with aura is linked to IAS plus PFO, mostly in younger people. Closing the PFO may cut how often migraines happen in some of them.

How a Clot Can Reach the Brain When IAS Occurs With a PFO



Isolated IAS (no PFO present) does not follow this path -- there is no direct route for a clot to cross to the left side of the heart.

When IAS occurs together with a PFO, a clot from the right side of the body can cross to the left side and travel to the brain -- one path to a stroke with no other clear cause. Isolated IAS, with no PFO, does not have this direct crossing route.

Treatment Options

- If you have IAS alone, with no stroke and no clot, you likely need no treatment. Most people just get a heart echo now and then to check for change.
- Aspirin (81 to 325 mg a day) is a fine choice to help prevent a first stroke in IAS alone. The PICSS trial found warfarin was no better than aspirin here.
- Say you have IAS plus PFO and have had a stroke with no clear cause. Closing the PFO is preferred over blood thinners alone. This is based on the CLOSE and REDUCE trials. The PFO is closed with a device through a small tube, not open surgery.
- Say you have IAS plus PFO but no past stroke. The choice to close it depends on your age, your migraines, and any other stroke risks. Talk it over with your heart doctor.
- A blood thinner (warfarin or a DOAC) may be used if a clot is seen in the bulge, or if you also have AFib.
- Surgery to remove the aneurysm is very rarely needed. It is kept for cases where the bulge blocks blood flow or keeps causing symptoms after all else fails.
- If your IAS plus PFO has not been closed, do not strain hard. Heavy lifting or bearing down raises pressure on the right side of the heart. That can push blood, and any clot, through the PFO.

Isolated IAS vs. IAS + PFO

- Isolated IAS (no PFO, no past stroke) is the most common picture. There is no direct route for a clot to cross to the left heart, so long-term outlook is good with routine follow-up.
- IAS + PFO is a different risk category, especially after a stroke or TIA with no other clear cause. The PFO gives a clot a path from the right side of the heart to the brain.
- Ask your heart doctor which picture applies to you -- it changes the whole conversation about monitoring, aspirin, and whether closing the PFO is on the table.
- See our PFO guide for the full picture of the flap-like hole that often travels with IAS: https://go.riasalimd.com/pfo-guide

The Antithrombotic Decision -- Often Less Than You'd Think

- For isolated IAS with no PFO, no clot, and no past stroke: many people need no daily blood-thinning medicine at all, just periodic echo follow-up.
- Aspirin is the usual first step to help prevent a first stroke when IAS is present, and the PICSS trial found it works as well as warfarin for IAS alone.
- A stronger blood thinner (a DOAC or warfarin) is generally reserved for two specific situations: a clot actually seen inside the bulge, or atrial fibrillation (AFib) diagnosed alongside IAS.
- Do not start or stop any of these medicines on your own -- the right choice depends on whether a PFO and/or AFib are also present, and on your personal bleeding risk.
- AFib changes this calculation -- see our AFib guide: https://go.riasalimd.com/afib-guide

Echo / TEE Surveillance and Follow-Up

- A standard chest echo (TTE) usually finds the aneurysm first. A transesophageal echo (TEE) -- a closer view from behind the heart -- gives the clearest picture of the bulge and confirms whether a PFO is also present.
- Follow-up imaging intervals are individualized: isolated IAS with a normal-sized bulge and no other findings may only need occasional rechecks; a large (Type 5) aneurysm or one with a PFO or prior clot is watched more closely.
- Bring any new symptoms to your next visit, but keep scheduled echo visits even when you feel completely well -- IAS is usually silent, so imaging is how change is caught early.
- Not the same finding as a true hole in the wall -- see our ASD guide for that comparison: https://go.riasalimd.com/asd-guide

Risks, Benefits, and Alternatives

Every choice has trade-offs. Use this table to start the shared decision conversation.

Option	Risks	Benefits	Alternatives
Watch and monitor only	Could miss slow change in the bulge. Does not stop a clot from forming. You must keep up with regular echo checks.	No procedure risk. No drug side effects. A good fit for IAS with no symptoms, no PFO, no past stroke, and no clot seen.	Add aspirin to help prevent a first stroke. Close the PFO if you had a stroke with no clear cause.
Aspirin (antiplatelet)	Small bleeding risk, such as gut bleeds or easy bruising. Not as strong as a blood thinner at stopping clots.	Lowers clot-related stroke risk. In the PICSS trial it worked as well as warfarin for IAS alone. Simple, cheap, once a day.	Watch only, if risk is very low. A blood thinner (DOAC or warfarin), which bleeds more for little extra gain in IAS alone. Close the PFO.
Close the PFO with a device (Amplatzer, Gore Cardioform)	Risks from the tube-based procedure: a brief spell of AFib (5 to 10%), the device slipping (rare), a small leak left behind, or fluid around the heart (under 1%). You take two antiplatelet drugs for 6 months after.	Cuts the risk of a second stroke by about 50 to 75% versus aspirin, in IAS plus PFO after a stroke with no clear cause. The result lasts, with no drug needed after the 6-month course. It is a Class I (strongly advised) choice here.	A blood thinner (DOAC) is a fair backup if closure is declined or not possible. Aspirin alone is not enough after a PFO-linked stroke.
Blood thinner (DOAC or warfarin)	Bleeding risk (a major bleed in about 2 to 3% per year). Ongoing drug cost, plus blood tests for warfarin. A bit better than aspirin at stopping clot-related stroke.	Lowers clot risk in the bulge. May be the better pick when you also have AFib. Covers PFO-linked stroke risk when the PFO is not closed.	Close the PFO, the preferred way to prevent a second stroke in IAS plus PFO. Aspirin, which is weaker but bleeds less for IAS alone.

Common Misconceptions

Myth	Reality
An atrial septal aneurysm will burst like a brain aneurysm.	This is the biggest myth to clear up. IAS is extra tissue in the heart wall, not a weak blood vessel. It does not burst. Brain and aortic aneurysms are artery walls under high pressure. IAS just sways gently with each heartbeat. The risk is a clot that slips through the PFO, not a rupture.
I need surgery right away.	Surgery is rarely needed. Fewer than 5% of people with IAS ever need a procedure. Most do fine with watching or aspirin. The only procedure usually weighed is closing the PFO through a small tube, not open surgery. And that is only after a stroke with no clear cause, when a PFO is also present.
If I have IAS, I will surely have a stroke.	Not true. The higher stroke risk is mostly for IAS plus PFO after a past stroke with no clear cause. IAS alone, with no PFO, carries a fairly low yearly stroke risk. Studies suggest it is close to that of the general public.
IAS is the same as an atrial septal defect (ASD).	These are different. An ASD is a true hole in the wall. Blood flows through it from one chamber to the other all the time. IAS is a floppy, bulging wall with no real hole. (It often comes with a PFO, but that is a flap, not a true hole.) An ASD usually needs closing. Most cases of IAS do not.
I have to stop all exercise.	Most people with IAS have no limits on activity. If you also have a PFO and have had a stroke, we may ask you to skip extreme bearing-down sports, like heavy weightlifting or deep diving, until we decide about closing it. Otherwise, normal activity is fine.
Warfarin is always better than aspirin for IAS.	The PICSS sub-study showed warfarin was no better than aspirin at stopping a second stroke in IAS alone, with no PFO. For IAS alone, aspirin is the usual first choice, and it bleeds less.

Possible Complications

Knowing what can go wrong helps you spot problems early. Most complications are uncommon, especially with treatment.

Where / What	What Can Happen
A clot that crosses over and causes stroke	This is the most serious risk. A clot forms on the right side of the body, in the legs, pelvis, or the bulge itself. It then slips through the PFO to the left heart and travels to the brain. This is how a stroke with no clear cause happens in IAS plus PFO.
Atrial fibrillation (AFib)	IAS is linked to a higher AFib risk. The floppy, moving wall can set off extra beats and change the heart's wiring. AFib plus IAS raises stroke risk a second way, since blood can pool in a left-heart pocket.
A clot inside the bulge	Blood moves slowly inside the bulge, so a clot can form there. This is more likely in a large (Type 5) aneurysm. It calls for a blood thinner and follow-up pictures.
Blocked blood flow on the right	This is very rare. A large bulge that pushes far into the right chamber can block the tricuspid valve or the path out of the right heart. This is one of the few times surgery to remove it is weighed.
Problems after closing the PFO	If the PFO is closed, you may get a brief spell of AFib (5 to 10%) or a small leak left behind, which we watch. A clot on the device is managed with aspirin. Fluid around the heart is rare. At skilled centers, the overall problem rate is low.

Points to Know

If you remember nothing else, remember these key points.

- IAS is not like an aortic or brain aneurysm. It does not burst. The risk is a clot, not a rupture.
- About 75% of people with IAS also have a PFO. Ask your heart doctor if you have been checked for both.
- Say you have IAS plus PFO and have had a stroke with no other cause. Closing the PFO is now strongly advised (Class I).
- If your IAS plus PFO has not been closed, do not strain hard. Heavy lifting or bearing down raises pressure on the right side of the heart and can push blood and clots through the flap.
- Tell us about any new fluttering in your chest. IAS is linked to AFib, and AFib plus IAS raises stroke risk even more.
- In young people with IAS plus PFO, migraines with aura may get better after the PFO is closed. Ask us if this fits you.
- A throat echo (TEE) gives the clearest view of the wall. It is usually done before any choice about closing the PFO.
- Keep your follow-up echo visits. Even with no symptoms, we need pictures now and then to track the heart.

When to Call Us - and When to Call 911

If you are not sure, call. We would rather hear from you twice than miss a real problem.

- Sudden weakness, numbness on one side, or a drooping face. Call 911. These are stroke signs.
- A sudden, severe headache unlike any you have had. Call 911.
- Sudden loss of vision or double vision. Call 911.
- Sudden trouble speaking or new confusion. Call 911.
- A new, frequent, or non-stop flutter in your chest. Call us today. It could be AFib.
- New shortness of breath while you are at rest. Call us.
- After a PFO closure, call us if you get chest pain, a fever, or trouble swallowing.
- If you are pregnant and have IAS plus PFO, call us before delivery. Some labor positions and pushing can raise pressure on the right side of the heart.

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Trusted Resources

The links below are the trusted resources Dr. Ali used to write this guide and that he recommends you visit for more information. Each is a clickable link in the digital version and a Short.io tracked URL on the printed version.

- Cleveland Clinic — Atrial Septal Aneurysm - Comprehensive patient overview including diagnosis, types, and treatment.
- PFO Research Foundation — Patient Resources - Patient advocacy and education for PFO, IAS, and related cryptogenic stroke.
- American Heart Association — Stroke Warning Signs - How to recognize a stroke and act immediately — critical for IAS patients.
- American Heart Association — Patent Foramen Ovale - AHA patient page on PFO, which co-exists with IAS in the majority of cases.

Sources Used to Build This Guide

Every recommendation in this guide is grounded in one or more of the studies, guidelines, or trusted resources below. Short links are tracked so Dr. Ali can see which references patients are reading; nothing personally identifying is captured.

- Cleveland Clinic — Atrial Septal Aneurysm *[Clinical]*
  Primary patient-friendly reference covering IAS definition, types, diagnosis, and treatment. Foundation for the what-is and treatment sections.
- Pearson et al — Interatrial Septal Aneurysm and Stroke (J Am Coll Cardiol 1991) *[Clinical Trial]*
  Landmark study defining IAS echo criteria (≥10 mm excursion or ≥15 mm base diameter) and establishing the stroke-risk association, especially when co-existing with PFO.
- PFO-ASA Study — PFO and IAS in Cryptogenic Stroke (Mas et al, NEJM 2001) *[Clinical Trial]*
  Key outcomes trial: combined IAS + PFO had 15x higher 4-year recurrent stroke risk vs neither. Anchors the PFO-closure discussion when IAS co-exists.
- CLOSE Trial — PFO Closure vs Anticoagulation for Cryptogenic Stroke (Mas et al, NEJM 2017) *[Clinical Trial]*
  Randomized trial showing PFO closure superior to anticoagulation alone for secondary stroke prevention. Relevant when IAS is co-present with PFO after a stroke.
- REDUCE Trial — Device Closure vs Antiplatelet for PFO + Cryptogenic Stroke (Søndergaard et al, NEJM 2017) *[Clinical Trial]*
  Confirms PFO closure benefit in cryptogenic stroke. ASA is a high-risk feature per RoPE score and REDUCE protocol — positions closure for IAS+PFO patients.
- Homma et al — Warfarin vs Aspirin in Stroke with PFO and ASA (NEJM 2002) *[Clinical Trial]*
  PICSS sub-study: warfarin not superior to aspirin for secondary prevention in IAS without PFO. Informs the anticoagulation vs antiplatelet decision for isolated IAS.
- AHA/ASA Scientific Statement — Cryptogenic Stroke and PFO (Kernan et al, Stroke 2014) *[Guideline]*
  Guideline positioning IAS as a high-risk morphologic feature increasing the probability that a PFO was causal in cryptogenic stroke. Anchors treatment algorithm.
- Mayo Clinic — Atrial Septal Aneurysm *[Clinical]*
  Patient-friendly overview of septal conditions, differentiating IAS from ASD and PFO.

About This Guide

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Reviewer note: Reviewed against Cleveland Clinic, MedicalNewsToday, and VeryWellHealth patient pages on IAS/ASA. Ours adds: the five-type morphologic diagram (1R/2L/3RL/4LR/Type 5), the PICSS trial framing (aspirin = warfarin for isolated IAS without prior stroke), explicit RoPE-score context for PFO closure eligibility when IAS co-exists, and a head-to-head IAS vs aortic vs brain aneurysm comparison in misconceptions.

Disclaimer

This guide is for educational purposes only and does not replace medical advice from your physician. Recommendations may not apply to every patient. Always follow the specific instructions of Dr. Ali and your care team. In an emergency call 911 or go to the nearest emergency department.

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