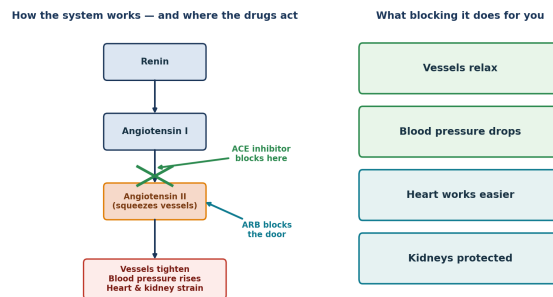


Understanding ACE Inhibitors and ARBs

Two close cousins that relax your vessels, lower blood pressure, and protect your heart and kidneys

They work on the same body system. Knowing how they differ helps you take them safely.



Online: <https://go.riasalimd.com/ace-arb-guide>

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Names & Terms You Will Hear

Term	Meaning
ACE inhibitor (ACEi)	A pill that blocks the enzyme that makes angiotensin II. The drug names end in '-pril' — lisinopril, enalapril, ramipril.
ARB (angiotensin receptor blocker)	A pill that blocks the receptor (the door) that angiotensin II uses. The drug names end in '-sartan' — losartan, valsartan, olmesartan.
RAAS / renin-angiotensin system	The body system that controls blood pressure and fluid. Both drug classes turn down this system.
Angiotensin II	A hormone that tightens blood vessels and raises blood pressure. These drugs lower its effect.
ARNI (sacubitril-valsartan)	A newer combination pill that pairs an ARB with a second drug. It is its own class, used mainly in heart failure.
Angioedema	A rare but serious swelling of the lips, tongue, or throat. It is more common with ACE inhibitors than ARBs.
Hyperkalemia	A high level of potassium in the blood. Both drug classes can raise potassium, so we check it.
'-pril' and '-sartan'	Quick memory trick: '-pril' means ACE inhibitor; '-sartan' means ARB.



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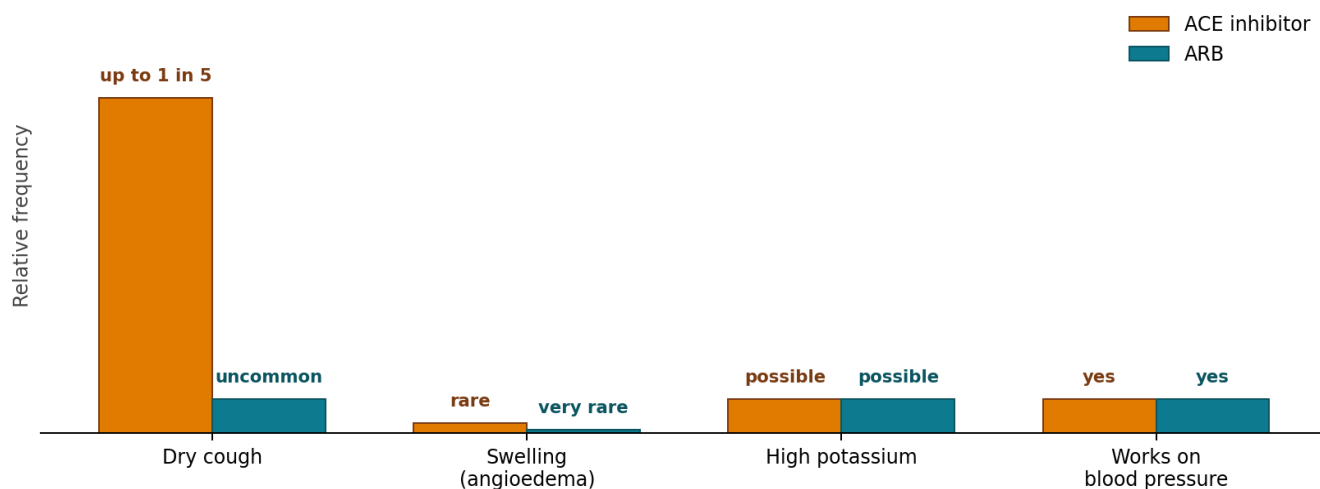


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What Is ACE Inhibitors and ARBs?

- ACE inhibitors and ARBs are two families of blood-pressure pills. They both turn down the same body system — the renin-angiotensin system — that tightens blood vessels.
- An ACE inhibitor blocks the step that makes angiotensin II. An ARB lets that hormone form but blocks the door it uses. The end result is similar: vessels relax and pressure falls.
- ACE inhibitor names end in '-pril' (lisinopril, enalapril, ramipril). ARB names end in '-sartan' (losartan, valsartan, olmesartan).
- The biggest day-to-day difference is a dry cough. ACE inhibitors cause it in up to 1 in 5 people. ARBs almost never do — so an ARB is the usual switch.
- Both classes do more than lower blood pressure. They protect the heart muscle after a heart attack and slow kidney damage in diabetes.

ACE inhibitor vs ARB: same job, one key difference



Both pills lower blood pressure the same way. The one practical difference: an ACE inhibitor can cause a dry cough, while an ARB almost never does.

ACE Inhibitor vs ARB — Side by Side

Feature	ACE Inhibitor ('-pril')	ARB ('-sartan')
Examples	Lisinopril, enalapril, ramipril	Losartan, valsartan, olmesartan
How it acts	Blocks making angiotensin II	Blocks the angiotensin II door
Dry cough	Common (up to 1 in 5)	Very rare



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Feature	ACE Inhibitor ('-pril')	ARB ('-sartan')
Throat swelling	Rare, but more likely	Very rare
Raises potassium	Yes — we monitor	Yes — we monitor
Pregnancy	Not safe	Not safe



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Why It Matters

- These are two of the most prescribed heart medicines in the world. Used correctly, they add years of healthy life.
- In reduced-EF heart failure, an ACE inhibitor was one of the first pills proven to lower death and hospital stays (the SOLVD trial).
- In high blood pressure, both classes are recommended first-line choices in the 2017 ACC/AHA guideline, with a goal below 130/80 for most patients.
- In diabetes with protein in the urine, they protect the kidneys better than most other blood-pressure drugs.
- Two safety rules drive everything in this guide: check potassium and kidney function, and never use these in pregnancy.



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Use 1 — Lowering High Blood Pressure

- Both classes are first-line blood-pressure drugs in the 2017 ACC/AHA guideline.
- The goal for most adults is below 130/80, reached with lifestyle changes plus medicine.
- They pair well with a water pill or a calcium-channel blocker when one drug is not enough.
- See our high-blood-pressure guide for the full picture: <https://go.riasalimd.com/htn-guide>

Use 2 — Protecting a Weak Heart (Heart Failure)

- In reduced-EF heart failure, an ACE inhibitor was among the first pills proven to lower death (the SOLVD trial).
- An ARB is used when an ACE inhibitor causes a cough. An ARNI often works even better for survival.
- These drugs are one of the four pillars of modern heart-failure care.
- See our heart-failure (HFrEF) guide: <https://go.riasalimd.com/hf-guide>

Use 3 — Protecting the Kidneys (Especially in Diabetes)

- When protein leaks into the urine, these drugs slow kidney damage better than most other choices.
- They lower the pressure inside the kidney's tiny filters, easing the strain.
- A small, stable rise in kidney numbers at the start is expected — it is not a reason to stop.
- We watch potassium closely in people with diabetes or kidney disease.

Pregnancy warning: ACE inhibitors and ARBs can seriously harm a developing baby. If you are pregnant, planning pregnancy, or could become pregnant, call us right away so we can switch you to a pregnancy-safe medicine.



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Risk Factors

Some patients are more likely to develop this condition. Knowing your risk helps your care team take extra precautions.

Risk Factor	Why It Increases Risk
Existing kidney disease	The kidneys clear potassium and adjust to these drugs. Weaker kidneys raise the chance of high potassium and bigger kidney changes.
Diabetes	Diabetes can raise potassium and affect the kidneys, so monitoring matters more — even though these drugs also protect diabetic kidneys.
Potassium pills or salt substitutes	These add potassium on top of the drug's effect and can push levels too high.
Dehydration or water pills	Low body fluid plus a RAAS blocker can drop blood pressure and stress the kidneys.
Pregnancy or possible pregnancy	These drugs can harm a developing baby; a pregnancy-safe medicine is used instead.
Past angioedema	A prior swelling reaction to an ACE inhibitor means that class is avoided going forward.



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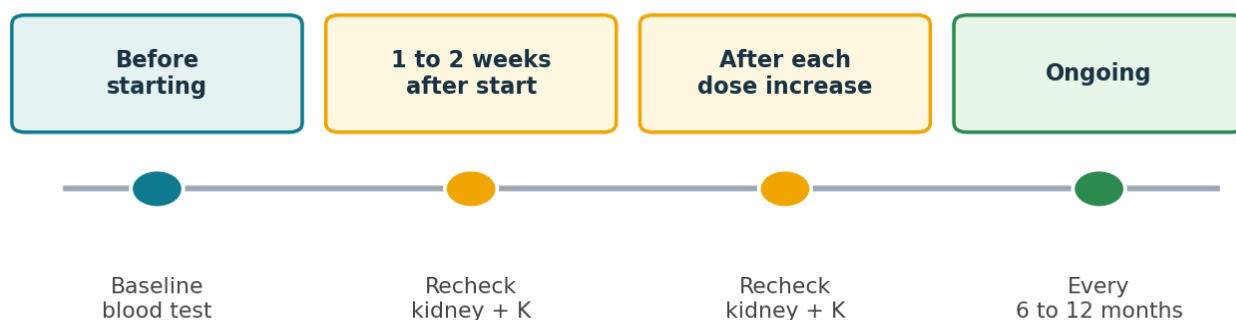


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Treatment Options

- Pick ONE class, not both. An ACE inhibitor OR an ARB — never the two together (see the misconceptions section for why).
- Most people start with an ACE inhibitor such as lisinopril. If a nagging dry cough appears, we switch to an ARB such as losartan.
- We start low and go slow. The dose is raised step by step to the target proven in trials, checking blood along the way.
- A blood test checks your kidneys and potassium before starting, after 1 to 2 weeks, and after each dose increase (see the timeline below).
- Tell us every supplement you take. Potassium pills, salt substitutes (which are potassium-based), and some pain relievers (NSAIDs) interact with these drugs.
- If you are pregnant, planning pregnancy, or could become pregnant, tell us right away. We will use a different, pregnancy-safe medicine.
- Take the pill at the same time each day. If you miss a dose, take it when you remember unless it is almost time for the next one. Do not double up.

When we check your kidneys and potassium



A simple blood test checks your kidneys and potassium at the right moments: before starting, soon after, after each dose change, then once or twice a year.



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The Three RAAS-Blocker Choices at a Glance

ACE Inhibitor	ARB	ARNI
• Names end in '-pril' • Usual first choice • Can cause dry cough • Low cost, generic	• Names end in '-sartan' • Switch if cough appears • Same benefits, no cough • Generic options exist	• Sacubitril-valsartan • Mainly for heart failure • Beats ACE inhibitor for survival • Wait 36 hours after a '-pril'



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Comfort Measures at Home (No Medication Needed)

These simple steps support healing and ease symptoms. Use them alongside any medication your doctor prescribes.

- Keep a simple medicine list with the drug name and dose. Bring it to every visit and to the pharmacy.
- Stand up slowly from sitting or lying down for the first few weeks to avoid dizziness.
- Stay well hydrated, but do not overdo salt substitutes — most are potassium-based.
- Take your blood pressure at home and write it down; bring the log to your visits.
- Set a daily phone alarm so the pill is taken at the same time each day.
- Read labels on cold and pain medicines; ask the pharmacist before adding NSAIDs.



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Risks, Benefits, and Alternatives

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

Option	Risks	Benefits	Alternatives
ACE inhibitor (a '-pril', such as lisinopril)	Dry cough (up to 1 in 5). Rare throat swelling. Can raise potassium or stress kidneys. Not safe in pregnancy.	Lowers blood pressure. Cuts death and hospital stays in reduced-EF heart failure (SOLVD). Protects diabetic kidneys.	ARB if a cough develops. A water pill or calcium-channel blocker for blood pressure alone.
ARB (a '-sartan', such as losartan)	Can raise potassium or stress kidneys. Throat swelling is very rare. Not safe in pregnancy. Cost may be higher.	Same blood-pressure and organ-protection benefits, with almost no cough. The usual choice if an ACE inhibitor causes a cough.	ACE inhibitor (often tried first). ARNI in heart failure. Other blood-pressure classes.
ARNI (sacubitril-valsartan)	Low blood pressure, high potassium, kidney changes. Must wait 36 hours after stopping an ACE inhibitor. Higher cost.	In reduced-EF heart failure, it beats an ACE inhibitor alone for survival. A guideline-preferred step for many.	ACE inhibitor or ARB alone (if ARNI is not tolerated or not affordable).
No RAAS blocker (lifestyle or other drug only)	Misses proven heart and kidney protection. Blood pressure may stay high.	Avoids cough, potassium, and pregnancy concerns. Reasonable for very mild cases or specific intolerances.	Salt reduction, weight loss, exercise. A different blood-pressure class.



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Common Misconceptions

Myth	Reality
If one is good, taking an ACE inhibitor AND an ARB must be better.	This is the most important myth to bust. The large ONTARGET trial tested both together. The combination gave NO added benefit and caused MORE kidney problems, high potassium, and dangerous low blood pressure. We use one or the other, never both.
My cough is a cold, not the medicine.	An ACE inhibitor cough is dry, tickly, and does not bring up mucus. It can start days to months after beginning the pill. If it is from the drug, it fades within weeks of switching to an ARB. Always tell us — do not just stop on your own.
These pills hurt my kidneys, so I should quit.	A small, stable rise in kidney numbers when starting is expected and often a sign the drug is working. We check blood to tell a safe change from a real problem. Stopping on your own can do more harm, especially in heart failure.
Salt substitutes are a safe, healthy swap.	Most salt substitutes replace sodium with potassium. Combined with an ACE inhibitor or ARB, they can push potassium to dangerous levels. Ask us before using any salt substitute or potassium supplement.
It is fine to keep taking these if I get pregnant.	No. ACE inhibitors and ARBs can seriously harm a developing baby's kidneys and skull, especially in the second and third trimesters. If you may become pregnant, we plan ahead and switch to a pregnancy-safe medicine.
ACE inhibitors and ARBs are completely different drugs.	They are close cousins. They act on the same system and share most benefits and risks. The main practical differences are cough (common with ACE inhibitors, rare with ARBs) and throat swelling (rare with both, but more with ACE inhibitors).



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Myth	Reality
Once my blood pressure is normal, I can stop.	These pills control blood pressure; they do not cure it. They also protect the heart and kidneys in the background. Stopping usually lets pressure climb again. Any change should be planned with us.

The one rule never to break: do not take an ACE inhibitor and an ARB at the same time. The ONTARGET trial proved the combination adds no benefit and causes more high potassium, kidney problems, and dangerously low blood pressure. One class only.



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Possible Complications

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

Where / What	What Can Happen
Throat and face (angioedema)	A rare but serious swelling of the lips, tongue, or throat that can block breathing. More common with ACE inhibitors. It is an emergency — call 911. Once it happens, that class is usually avoided for life.
Blood potassium (hyperkalemia)	Both classes can raise potassium. Very high potassium can cause a dangerous heart rhythm. Risk is higher with kidney disease, potassium pills, salt substitutes, or certain other drugs. We check blood to catch it early.
Kidneys	A small, stable rise in kidney numbers is expected and usually fine. A large or fast rise — sometimes from dehydration or a narrowed kidney artery — means the dose needs review. Blood tests tell the difference.
Blood pressure (too low)	The first doses can drop pressure and cause dizziness, especially in people who are dehydrated or already on water pills. Stand up slowly. Tell us if you feel faint.
Dry cough (ACE inhibitors)	A persistent, tickly, dry cough affects up to 1 in 5 people on an ACE inhibitor. It is annoying, not dangerous, and goes away after switching to an ARB.
Pregnancy (harm to the baby)	Used in pregnancy, these drugs can damage the baby's kidneys and skull, mainly in the second and third trimesters. They must be stopped and replaced before or as soon as pregnancy is known.



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Points to Know

If you remember nothing else, remember these key points.

- '-pril' means ACE inhibitor. '-sartan' means ARB. They work on the same system.
- The key difference: ACE inhibitors can cause a dry cough (up to 1 in 5). ARBs almost never do.
- Never take an ACE inhibitor and an ARB at the same time. One or the other only.
- We check kidneys and potassium before starting, after 1 to 2 weeks, and after each dose change.
- Avoid potassium supplements and salt substitutes unless we say they are safe for you.
- Do not use these if you are pregnant or may become pregnant — they can harm the baby.
- Sudden swelling of the lips, tongue, or throat is an emergency. Call 911.
- These pills protect the heart and kidneys, not just blood pressure. Keep taking them as prescribed.



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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.

- Swelling of the lips, tongue, throat, or trouble breathing or swallowing — call 911. This can be angioedema.
- Feeling faint, very dizzy, or passing out — call us today; if severe, call 911.
- A new dry cough that will not quit — call us this week; we can switch you to an ARB.
- Muscle weakness, a slow or irregular heartbeat, or tingling — call us today (possible high potassium).
- Much less urine, severe swelling, or sudden weight gain — call us today.
- You find out you are pregnant or are planning pregnancy — call us right away to switch medicines.
- A rash, hives, or any allergic reaction after a dose — call us today.
- You started a new medicine, supplement, or salt substitute — call us to check for interactions.

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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 — ACE Inhibitors](#) - Patient-friendly overview of ACE inhibitors, their uses, and the cough side effect.
- [Cleveland Clinic — ARBs](#) - Plain-language guide to ARBs and when they replace an ACE inhibitor.
- [MedlinePlus — ACE Inhibitors \(NIH\)](#) - NIH patient instructions on monitoring kidneys and potassium and avoiding pregnancy.
- [American Heart Association — Heart Medications](#) - AHA hub explaining ACE inhibitors and ARBs among other heart medicines.
- [Our Heart Failure \(HFrEF\) guide](#) - How ACE inhibitors, ARBs, and ARNIs fit into the four pillars of heart-failure care.
- [Our High Blood Pressure guide](#) - Where these pills fit in the bigger blood-pressure picture, including goals and lifestyle.



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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 — ACE Inhibitors](#) [Clinical]
Patient overview of ACE inhibitors — uses, cough side effect, and monitoring.
- [Cleveland Clinic — ARBs \(Angiotensin Receptor Blockers\)](#) [Clinical]
Patient overview of ARBs and when they replace ACE inhibitors.
- [2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure](#) [Guideline]
Guideline basis for ACEi/ARB/ARNI as renin-angiotensin GDMT in HFrEF; combining ACEi+ARB is not recommended.
- [2017 ACC/AHA High Blood Pressure Guideline](#) [Guideline]
ACEi and ARB as first-line blood-pressure drug classes; goal below 130/80 for most patients.
- [MedlinePlus — ACE Inhibitors](#) [Clinical]
NIH/NLM patient instructions covering kidney/potassium monitoring and pregnancy caution.
- [ONTARGET Trial \(NEJM 2008\) — Telmisartan, Ramipril, or Both](#) [Trial]
Landmark trial: combining an ACE inhibitor and an ARB gave no added benefit and caused more kidney problems, high potassium, and low blood pressure.
- [SOLVD Trial \(NEJM 1991\) — Enalapril in Heart Failure](#) [Trial]
Foundational trial showing an ACE inhibitor (enalapril) lowers death and hospitalization in reduced-EF heart failure.
- [American Heart Association — Types of Heart Medications](#) [Clinical]
AHA plain-language hub on ACE inhibitors and ARBs within the broader heart-medication picture.



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About This Guide

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Reviewer note: Reviewed: Cleveland Clinic, Mayo Clinic, AHA, MedlinePlus drug pages. This guide adds a side-by-side action diagram, an ACE-cough-vs-ARB chart, a blood-test monitoring timeline, named drug examples, and an RBA section using the SOLVD and ONTARGET trials.

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