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# Valsartan (Diovan)

*An ARB for high blood pressure, heart failure and life after a heart attack. Doses, blood tests and safety.*

**10 to 15**
mmHg, about how much valsartan alone lowers the top number in mild to moderate high blood pressure

**20%**
fewer heart deaths and heart failure hospital stays on Entresto than on enalapril

**24 hours**
how long one dose keeps working, so once a day works for blood pressure

HOW IT WORKS

## Valsartan alone, and inside Entresto

**Valsartan**
an ARB, blocks the AT1 receptor

**Angiotensin II**
the tightening hormone

blocked

**AT1 receptor**
where it acts

- Tightens blood vessels
- Holds salt and water
- Scars heart and vessels

The protective AT2 receptor stays active

**Sacubitril**
the second drug in Entresto

**Neprilysin**
an enzyme that breaks down the peptides

blocked

**Natriuretic peptides**
the body's own protective hormones

- Widen blood vessels
- Help shed salt and water
- Ease scarring

**Entresto pairs the two. In heart failure the combination is more powerful than either part alone.**

By blocking that receptor, valsartan lowers blood pressure, reduces the workload on the heart and protects the kidneys.

WHAT IT'S USED FOR

## Three main uses

**High blood pressure**
This is the most common use. When one drug isn't enough, amlodipine (Exforge) or a water pill (Diovan HCT) is added.

**Heart failure**
With weak pumping, most people now start on sacubitril-valsartan (Entresto). Plain valsartan stays an option when sacubitril can't be used.

**After a heart attack**
With a weakened heart or heart failure, valsartan held up as well as captopril, an ACE inhibitor, in the VALIANT trial.

Dr. Rasch defaults to valsartan for people who may later need sacubitril-valsartan, since the move is then a simple substitution.

## Take it consistently

Take it consistently and keep the follow-up blood tests, creatinine and potassium within 1 to 2 weeks of any dose change. Call about any new cough, lightheadedness, muscle weakness or a pregnancy.

TAKING IT SAFELY

# Your dose, your blood tests and when to avoid it

## YOUR DOSE

set by your doctor

| | |
|---|---|
| **High blood pressure** | Start at 80 or 160 mg once daily. The dose goes up to 320 mg if blood pressure stays above target. |
| **Heart failure, plain valsartan** | Start at 20 to 40 mg twice daily and work up to 160 mg twice daily over 2 to 4 weeks. |
| **Entresto** | Start at 24/26 or 49/51 mg twice daily, depending on your earlier medicines and blood pressure, and work up to 97/103 mg twice daily over 2 to 4 weeks. Never take it with an ACE inhibitor. A 36-hour gap is required between the two. |
| **After a heart attack** | Start at 20 mg twice daily and work up to 160 mg twice daily over 1 to 3 months, as blood pressure and kidney function allow. |
| **Day to day** | With or without food, at any time of day. If you miss a dose, take it when you remember that same day, or skip it if the next one is due soon. Never double up. |

## BLOOD TESTS

| | |
|---|---|
| **Creatinine** | Checked within 1 to 2 weeks of starting or raising the dose, then periodically. A rise up to 30% is expected and acceptable. A larger jump is worth checking for dehydration, a narrowed kidney artery, an anti-inflammatory pain reliever (NSAID) or recent IV contrast dye. |
| **Potassium** | It rises a little, and can reach dangerous levels with kidney disease, spironolactone or eplerenone, potassium supplements, or the antibiotic TMP-SMX. |

## WHEN TO AVOID IT

| | |
|---|---|
| **Pregnancy** | Don't take it while pregnant, because valsartan and the whole ARB class cause severe harm to a developing baby in the second and third trimesters, including kidney failure, too little amniotic fluid and underdeveloped lungs and skull. Exposure in the first trimester carries a smaller but real risk. Women who could become pregnant need reliable contraception. Any planned or confirmed pregnancy requires an immediate switch to a pregnancy-safe drug (methyldopa, labetalol, nifedipine) and a visit with a maternal-fetal medicine specialist. |
| **Narrowed kidney arteries** | On both sides, or in a single working kidney. Valsartan can cause sudden kidney injury. |
| **Swelling on an ACE inhibitor** | About 3.5% react to ARBs too. After mild swelling it can be tried with caution. After severe throat swelling, a different class is safer. |
| **High potassium, aliskiren** | Potassium above 5.5 should be corrected first. Don't combine with aliskiren if you have diabetes. |
| **Throat or tongue swelling** | Call 911 for swelling of the throat or tongue, or trouble breathing. This swelling (angioedema) is rarer on ARBs than ACE inhibitors, about 0.11% vs 0.3%, and similar on Entresto. |

## THE 2018-2019 RECALLS

The 2018-2019 valsartan, losartan, and irbesartan recalls were caused by an NDMA (N-nitrosodimethylamine) contaminant in products from specific manufacturers (Zhejiang Huahai, Hetero Labs, others). The FDA worked with manufacturers to clean up the impurities. Generic valsartan sold in US pharmacies today has been re-approved and is safe.

## READ THE FULL ARTICLE

damianrasch.com/valsartan

For education only, and not a substitute for advice from your own physician. Sources include the Val-HeFT, VALIANT, VALUE, PARADIGM-HF, PARAGON-HF, ONTARGET, ALTITUDE and ACCOMPLISH trials, the 2017 ACC/AHA blood pressure guideline and the 2022 AHA/ACC/HFSA heart failure guideline.

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