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DAMIAN RASCH, D.O.

ENCINITAS · LA JOLLA, CALIFORNIA



Left Bundle Branch Block

A detour in the heart's wiring. What it means, and the tests that sort it out.

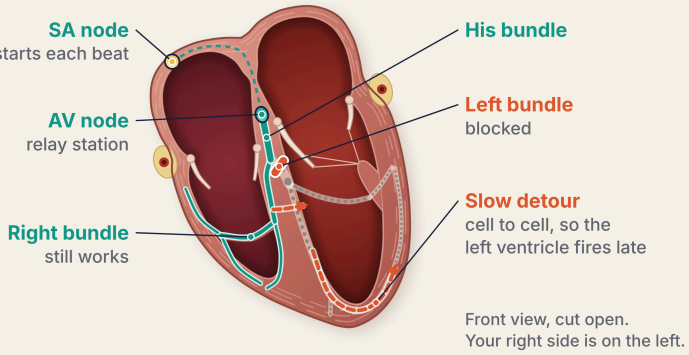
120 ms+
is the width of the QRS on the EKG in LBBB. Normal is under 120 milliseconds.

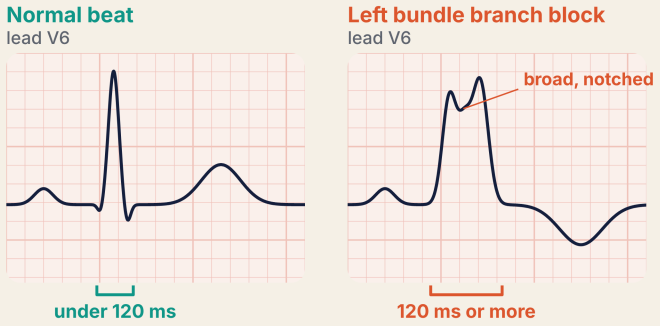
About 5%
of people have LBBB by age 80, compared with under 1% of the general population

53%
lower combined risk of heart failure events or death with CRT in people with LBBB (MADIT-CRT trial)

WHAT'S HAPPENING

The signal to the left side takes a detour





Simplified drawings, not real tracings. One small box is 40 ms.

Each beat starts in the sinoatrial (SA) node, your natural pacemaker, passes the AV node and the His bundle, then splits into a right and a left bundle branch so both lower chambers (ventricles) contract almost together. In LBBB the left bundle is blocked or badly delayed. The signal reaches the right ventricle first and spreads slowly cell to cell across the septum (the wall between the ventricles), so the left ventricle contracts late, like a rowing team with half the rowers a beat behind.

WHY IT GETS CHECKED

Harmless for some, a clue for others

More likely benign
LBBB on its own, with a normal echocardiogram and no symptoms. The outlook is generally favorable.

More concerning
A weak or enlarged heart or a valve problem on the echo, symptoms like breathlessness or fatigue, or new LBBB.

Why it's watched
LBBB raises the risk of heart failure over time, and out-of-sync pumping may weaken the heart in some people.

Don't ignore it

On its own, LBBB is an electrical finding. It is not a heart attack, and it does not mean you will automatically get heart failure. Get your echocardiogram, follow up with your cardiologist, pay attention to symptoms and take care of the risk factors you can control.

TESTS, FOLLOW-UP AND CRT ARE ON THE BACK

TESTS AND TREATMENT

The workup, follow-up and when CRT helps

CALL 911

even if your LBBB is already known

Heart attack symptoms	Sudden chest pain, shortness of breath or other heart attack symptoms. Call 911 immediately and let the emergency team sort out the cause.

AFTER AN LBBB DIAGNOSIS

Echocardiogram	The first test for everyone with newly found LBBB. This ultrasound shows chamber size, wall thickness, the valves and pumping strength (ejection fraction).
Blood work	Thyroid, kidney function and electrolytes, and sometimes BNP or NT-proBNP, a blood test that helps detect heart failure.
Stress test	May be needed, depending on your risk factors and symptoms. With LBBB, a nuclear stress test or stress echo is usually chosen.
Cardiac MRI	Can find early heart muscle disease that the echo misses. Studies found it in about one third of people with LBBB and a normal echo.

CARDIAC RESYNCHRONIZATION THERAPY (CRT)

What it is	A device like a pacemaker with an extra lead in a vein on the surface of the left ventricle. It paces both ventricles at once to bring them back in sync.
Who it's for	Current guidelines give their strongest recommendation to people with LBBB who have an ejection fraction of 35% or less, a normal (sinus) rhythm, a QRS of 150 ms or wider and symptoms despite the best medical therapy.
The evidence	MADIT-CRT enrolled over 1,800 people with mild heart failure and a reduced ejection fraction. In those with LBBB, CRT lowered the combined risk of heart failure events or death by 53%, and at seven years 18% had died with CRT versus 29% with a defibrillator (ICD) alone. In REVERSE the heart got smaller and stronger. In RAFT, death from any cause fell by 25%, with benefit over nearly 14 years.
Newer option	Conduction system pacing places the lead on the heart's own wiring (His bundle or left bundle branch area pacing). It is increasingly offered as an alternative to traditional CRT.

LIVING WITH LBBB

Follow-up	If the first echo is normal, a repeat usually comes in 6 to 12 months, then every 1 to 2 years, with an EKG once a year.
Call your cardiologist	New shortness of breath, less exercise tolerance, swelling in your legs or ankles, fatigue worse than usual, or lightheadedness.

HAVING A STRESS TEST?

With LBBB, the EKG part of a treadmill test can look abnormal even when the arteries are fine. Make sure the doctor ordering your test knows you have LBBB, so an imaging stress test is used.

READ THE FULL ARTICLE

damianrasch.com/lbbb

For education only, and not a substitute for advice from your own physician. Sources include the 2018 ACC/AHA/HRS conduction guideline, the 2023 HRS/APHRS/LAHRS pacing guideline, MADIT-CRT (NEJM 2014), RAFT (NEJM 2024), Thein et al. (JAMA Netw Open 2025) and the 2025 ESC pacing statement.

DR. DAMIAN RASCH, D.O. · BOARD-CERTIFIED INVASIVE CARDIOLOGIST · ENCINITAS AND LA JOLLA, CA

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