

Entresto VS. Alternative Therapies for Chronic Heart Failure

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There are six million people aged 20 and over who have congestive heart failure. According to the National Center for Complementary & Alternative Medicine, thirty percent of those people use alternative therapies to manage congestive heart failure (Chow, 2023). Those patients choose not to conform to standard medical treatments due to potential side effects, opting for complementary and alternative medicines instead. How in comparison, do they fare against the standard medical treatments? In patients with Congestive Heart Failure, how does the administration of standard medical therapies, in conjunction with lifestyle modifications, influence cardiac function and quality of life versus only using complementary and alternative therapies?

There are many standard medications that treat heart failure, including Entresto and Farxiga. One of the biggest differences between Farxiga and Entresto is that they belong to different medication classes. Farxiga and Entresto work differently from each other. Experts are not clear on all of the ways that Farxiga works for heart failure but, Farxiga does prevent the kidneys from reabsorbing sodium and glucose into the bloodstream, lowers the amount of fluid in the bloodstream, taking stress off the heart and kidneys, and lowers blood pressure. It is believed that Farxiga may lower levels of inflammation in and around the heart, may help prevent the heart from changing shape over time and may improve energy usage in the heart, helping it pump blood more effectively (Aungst, 2024).

When taken for heart failure, the recommended Farxiga dosage is 10 mg (one tablet) once a day in the morning. Farxiga is recommended to be taken in the morning because it can cause frequent urination. Thus, taking Farxiga in the morning prevents nocturia. Because of how Farxiga works, it causes you to excrete extra glucose via the urine. However, bacteria and fungi are attracted to glucose. This raises your risk of developing urinary tract infections (UTIs) and

fungal infections of the genitals. Other possible Farxiga side effects are urinating more often, especially in the hours after taking it, weight loss, cold-like symptoms, back pain, nausea, constipation, hypoglycemia, dehydration, serious genital infections, and ketoacidosis (Aungst, 2024).

Entresto combines two medications into one tablet: sacubitril and valsartan. It is an angiotensin receptor neprilysin inhibitor, also called ARNI. Entresto is the only medication in its class. The two medications in Entresto work together to improve blood flow throughout your body, lower your blood pressure, protect your heart and kidneys against damage, help your kidneys remove extra fluid more efficiently, take stress off your heart, and increase levels of certain proteins that help protect your heart health (Aungst, 2024).

Most people start with the lowest dose of Entresto and take one tablet twice a day. Your dose will be raised over the first few weeks you take it. Entresto is an oral tablet that comes in three doses: 24 mg sacubitril / 26 mg valsartan , 49 mg sacubitril / 51 mg valsartan, and 97 mg sacubitril / 103 mg valsartan. The recommended maintenance (long-term) dosage of Entresto is 97 mg/103 mg twice a day. Entresto doesn't affect glucose levels or how much you urinate. It also does not raise the risk of UTIs or yeast infections. However, it can cause the following side effects: hypotension, dizziness, cough, hyperkalemia, renal damage (rare), angioedema (rare), and birth defects if taken during pregnancy (Aungst, 2024).

Drug interactions are another notable difference between Farxiga and Entresto. They interact with separate medications. Key Farxiga interactions include: Diuretics, such as hydrochlorothiazide or furosemide (Lasix), insulin, sulfonylureas, such as glipizide (Glucotrol XL) or glyburide (DiaBeta, Glynase), glinides, such as repaglinide, and lithium (Lithobid) — Farxiga may lower lithium levels. Key Entresto interactions include: ACE inhibitors, such as

lisinopril (Zestril), other angiotensin II receptor blockers, such as losartan (Cozaar), aliskiren (Tekturna), medications that raise potassium levels, such as spironolactone (Aldactone), nonsteroidal anti-inflammatory drugs, such as ibuprofen (Advil, Motrin) and lithium — Entresto may raise lithium levels. There are several reasons why your cardiologist may prescribe Entresto or Farxiga including: your age, you are already taking valsartan, potential side effects, drug interactions, weight loss goals, and cost. In some cases, patients may take both Farxiga and Entresto (Aungst, 2024).

Minor changes can make a significant difference. Following a heart healthy diet, exercise, and quitting smoking can help alleviate heart failure symptoms, slow down progression, and improve everyday life in mild to moderate cases. Important lifestyle changes include: weight loss, smoking cessation, increasing physical activity, promoting rest and relaxation, improving sleeping habits, managing stress, following guidelines for sexual activity, and avoiding vaccinations that can be harmful to patients with congestive heart failure (Heart Association, 2023).

Sudden weight gain or loss can be a sign that you are developing heart failure or that your heart failure is progressing. Even if you are feeling fine, your health care professional needs to know about weight changes so that your medications can be adjusted if needed. This may help you avoid hospitalization for worsening heart failure. Ask your health care professional or nurse how much fluid to drink every day. Weigh yourself at the same time each morning, preferably before breakfast and after urinating. Always wear the same types of clothes (try to weigh yourself without shoes) and use the same scale in the same location. This will help you to see actual changes in weight from day to day. Write down your weight and be sure to bring a copy with you each time you visit your health care professional. Notify your health care professional if

you gain two to three pounds in one day for several days in a row, five or more pounds in one week or whatever amount your health care team told you to report (Heart Association, 2023).

Nicotine from tobacco smoke increases heart rate and blood pressure for a brief time. Carbon monoxide also gets into the blood and robs your heart and brain of needed oxygen. Smoking decreases your tolerance for physical activity and increases the tendency for blood to clot. It also decreases HDL (good) cholesterol (Heart Association, 2023).

Regular, moderate-intensity physical activity can help your heart get stronger. Physical activity is anything that makes you move your body and burns calories, such as walking, raking leaves, climbing stairs, or playing sports. It becomes regular when you do an activity consistently. How much activity and what kinds of activity you can do depend on the level of your heart health (Heart Association, 2023).

It is important to schedule time every day for rest and relaxation. Rest times are essential because they give the heart a chance to pump more easily. Daytime rest can help keep you from overdoing it and ease feelings of tiredness caused by nighttime sleep interruptions (Heart Association, 2023).

To improve your sleep at night, use pillows to prop up your head. Avoid naps and big meals, caffeine, and alcohol right before bedtime. If taking a diuretic, ask the doctor if you can take it in the morning to avoid sleep disturbance (Heart Association, 2023).

Eat an overall healthy eating pattern that emphasizes a variety of fruits and vegetables, whole grains, low-fat dairy products, skinless poultry and fish, nuts and legumes, and non-tropical vegetable oils. Also, limit saturated fat, trans fat, cholesterol, sodium, red meat, sweets, and sugar-sweetened beverages. Stay out of the drive thru, if you must eat out, choose a salad.

The DASH Diet is great for people with heart failure and hypertension (Heart Association, 2023).

Everyone has certain stress triggers — things that cause your heart to pound and make you breathe harder. It is important to work to manage stress and anxiety. They make the heart work harder, which can make symptoms worse. Don't use smoking, drinking, overeating or drugs to cope with stress, as these habits can make your condition worse. Instead, try things like: taking 15 to 20 minutes a day to sit quietly, breathe deeply and think of a peaceful scene, try a class in yoga or meditation (check with your health care professional first before undertaking a strenuous yoga class), count to 10 before answering or responding when you feel angry, and joining a support network (Heart Association, 2023).

Following heart patient guidelines for sexual activity is important. Many people are concerned about resuming sexual relations after their heart failure diagnosis. Try not to feel embarrassed about talking about it with your physician or other members of your health care team. If you have heart failure, being able to have sex depends on your symptoms and the severity of your heart failure. People with mild heart failure can usually safely have sex. If you have more severe heart failure symptoms, sex should be avoided until your condition is stable and well managed. Your health care professional will tell you when it's safe to resume sexual activity. Some people with heart failure may not be able to have intercourse but may be able to engage in other activities (Heart Association, 2023).

Stay as healthy as possible by avoiding flu and pneumonia with vaccinations. Flu (influenza) and pneumonia pose greater dangers for people who have heart failure than for healthy people. Pneumonia is a lung infection that you can develop if you get the flu. It keeps your body from using oxygen as well as it should. Your heart has to work harder to pump

oxygenated blood through the body. Ask your health care team about getting a yearly flu vaccine and a one-time pneumococcal vaccine to guard against the most common form of bacterial pneumonia. Both vaccines are generally safe and seldom cause any severe reactions. It's much riskier not to have the vaccines (Heart Association, 2023).

Physiotherapists are registered health professionals who help people affected by injury, illness or disability through physical treatment modalities such as movement and exercise. They use a 'whole person' approach, taking into account a patient's general health and lifestyle. At the core is the patient's involvement in their own care through education, awareness, empowerment and participation in their treatment (Forsyth, 2024).

Reduced exercise tolerance is commonly seen in people living with heart failure and can adversely affect daily activities and quality of life. Often delivered within the context of a comprehensive programme of rehabilitation, national and international guidelines have long recommended structured physical training and exercise programs for patients living with heart failure. Randomized controlled trials and systematic reviews show that such programs are both safe and beneficial for these individuals. Physiotherapists, with specialist skills in assessment; exercise prescription, delivery, and monitoring; and competence in adapting exercise to suit different abilities, comorbidities and varying clinical presentations, are well placed to deliver this intervention. Physiotherapists will also flexibly adapt their interventions to align with patient-directed preference and goals where needed (e.g., provide home-based interventions). Their advanced skills in health behavior change are also recognized as an integral component of cardiovascular disease management by the British Association for Cardiovascular Prevention and Rehabilitation (BACPR). In addition to tailored exercise training, additional physiotherapy adjuncts that may be employed when working in heart failure settings include inspiratory muscle

training along with techniques to aid management of dyspnea, such as diaphragmatic breathing and positioning; energy conservation techniques, provision of aids and adaptations and guidance on pacing; and postural/core strength training. An emerging role for physiotherapists working at an advanced practice level may include independent prescribing. Healthcare professionals trained with prescribing rights are well placed to ease the pressure of stretched medical services and support service innovation. The BACPR recognizes the value of independent prescribers within MDTs supporting individuals with cardiovascular disease (Forsyth, 2024).

Cardiac physiologists are accredited healthcare scientists who provide cardiac diagnostic testing. The role of a cardiac physiologist is varied; however, the major specialisms are echocardiography, intervention, and cardiac rhythm management, including the programming and optimization of implantable devices. Cardiac physiologists are involved in the diagnosis, treatment, monitoring, and follow-up of patients with heart failure who often attend for serial appointments. Echocardiography is the first-line imaging modality for the diagnosis of heart failure. It is recommended for the assessment of both acute and chronic heart failure. Cardiac resynchronization therapy and implantable cardioverter defibrillators are recommended treatments in patients with heart failure and severe left ventricular systolic dysfunction. These patients are monitored regularly by cardiac physiologists in the clinic. As a professional group, cardiac physiologists form a key part of the MDT caring for individuals with heart failure (Heidenreich , 2022).

Another option for managing heart failure is CRT-Cardiac Resynchronization Therapy. Arrhythmias are irregular heart rhythms and can have a variety of causes, including older age, heart damage, medications, and genetics. In heart failure patients, CRT, or biventricular pacing, is used to help improve the heart's rhythm and the symptoms associated with arrhythmia. The

procedure involves implanting a half-dollar sized pacemaker, usually just below the collarbone. Three wires (leads) connected to the device monitor the heart rate to detect heart rate irregularities and emit tiny pulses of electricity to correct them, resynchronizing the heart. Because CRT improves the heart's efficiency and increases blood flow, patients have reported alleviations of some heart failure symptoms, such as shortness of breath. While researchers are still working to fully understand the benefits of CRT, clinical studies suggest decreases in hospitalization and morbidity and improvements in quality of life. In general, CRT is for heart failure patients with moderate to severe symptoms and whose left and right heart chambers do not beat in unison. However, CRT is not effective for everyone and is not for those with: mild heart failure symptoms, diastolic heart failure, chambers that beat together already, dementia, advanced malignancy requiring palliative care, chronic disease with a life expectancy of less than one year, acute decompensated heart failure, coagulopathy, and active infection or sepsis. It is also not suitable for patients who have not fully explored correcting the condition through medication therapies (Heart Association, 2023).

Cardiac rehabilitation can be a life-changing step in the journey to recovery from heart failure, playing a critical role in improving quality and length of life. Everything you need to get and stay healthy is in one place. Health care professionals are on hand at all times. Rehab can help you on the road to better heart health and can help to reduce your chances of future heart problems. Cardiac rehab is a medically supervised program to help heart patients improve overall physical, mental and social function. The goal is to stabilize, slow or even reverse the progression of heart failure. This can help reduce the risk of heart disease, another cardiac event or death. Cardiac rehab programs usually provide: a medical evaluation to determine your needs and limitations, a physical activity program tailored to your needs and limits, counseling and

education to help you understand your condition and how to manage it, support and training to help you return to work or your normal activities, and counseling on modifying risk factors through nutrition and the use of prescribed medications (Heart Association, 2023).

Depending on the cause of your heart failure, initial treatments for mild to moderate heart failure will include regular exercise, quitting smoking, treatment for hypertension (medication and low-sodium foods and drinks), lipid disorders (cholesterol) treatment, discontinuing alcohol or certain drugs, an angiotensin receptor/neurolysin inhibitor (ARNi), angiotensin converting enzyme inhibitor (ACE-I) or an angiotensin II receptor blocker (ARB). Beta blockers are essential for all patients with heart failure. Often as heart failure becomes advanced, patients may become intolerant of beta-blockers. Most patients with heart failure also receive aldosterone antagonists (spironolactone and eplerenone), which reduce mortality and the need for hospitalization. The newest drugs dapagliflozin or empagliflozin (SGLT2 inhibitors) also will be prescribed for most people with heart failure. Your doctor will check to make sure you are taking the medications proven to help and work to achieve the best doses. Some medications require more than one visit to adjust the dosage (Clinic, n.d.).

All people with Stage B heart failure should take medication such as an angiotensin converting enzyme inhibitor (ACE-I) or angiotensin II receptor blocker (ARB) and a beta-blocker. Surgery or interventional options for coronary artery blockage, heart attack and valve repair or replacement (as appropriate) should be discussed. Usual treatments for Stage C heart failure include: sacubitril/valsartan (angiotensin receptor/neprilysin inhibitor or ARNi) is the preferred medication for most all patients with heart failure, an aldosterone antagonist will be prescribed (eplerenone or spironolactone), an alternative to ARNi will include medications such as an angiotensin converting enzyme inhibitor (ACE-I) or angiotensin II receptor blocker (ARB),

a beta-blocker will be prescribed to help your heart muscle pump with less work, a sodium glucose cotransporter 2 inhibitor will be prescribed (dapagliflozin or empagliflozin).

Hydralazine/nitrate combination may be prescribed if symptoms persist or you cannot tolerate ACE-I. Diuretics are used in most patients for fluid retention. Digoxin is used in many patients with persistent symptoms. Cardiac resynchronization therapy (biventricular pacemaker) may be recommended. An implantable cardiac defibrillator (ICD) therapy may also be recommended. Patients should be evaluated to determine if the following treatments are available options: heart transplant, ventricular assist devices, surgery options, continuous infusion of intravenous inotropic drugs, end-of-life (palliative or hospice) care, or research therapies (Clinic, n.d.).

The most common surgery for heart failure treatment is bypass surgery. If a coronary artery becomes blocked, less oxygen-rich blood reaches your heart muscle. Your heart muscle becomes “starved” for blood (ischemia) and is unable to pump normally; heart failure occurs. Your doctor will determine if your heart failure is caused by coronary artery disease and if you have blockages that can be “grafted” or bypassed. Although patients with heart failure are at an increased surgical risk, new strategies before, during and after surgery have decreased the risk and improved outcomes (Clinic, n.d.).

As heart failure progresses, remodeling of the left ventricle causes the papillary muscles (which support the mitral valve leaflets) to stretch out of shape, causing your valve to leak. Mitral valve repair usually involves reshaping the leaflets and providing support to your mitral valve with a ring. Experience at Cleveland Clinic has shown that repair of the mitral valve: preserves the natural anatomy of the heart, improves cardiac function, decreases symptoms, improves survival, decreases complications and risks. If the aortic valve leaks, aortic valve repair or replacement may be an option (Clinic, n.d.).

A less invasive procedure than open heart surgery, called a percutaneous heart valve replacement, can be performed for patients with heart failure who have narrowing or leakage of the valves. This newer interventional procedure involves the insertion of an artificial heart valve using a catheter. The entry portal is via your femoral vein or artery, or directly through your myocardium. An expandable prosthetic heart valve is inserted at the site of the diseased native valve. Likewise, sometimes a leaking mitral valve can be repaired with a procedure performed in the cath lab where the valve is stapled with a clip. This mitralclip procedure does not require a chest incision and the hospitalization may be as short as two days (Clinic, n.d.).

Heart failure means the muscle in your heart is not working as well as it should. As a result, your heart can't pump enough blood to meet your body's needs. Approximately 5.7 million people in the U.S. are living with heart failure. Each person with heart failure will have a unique experience with different symptoms and need different treatments (Clinic, n.d.).

Some patients may shy away from the standard medication therapies and prefer a holistic approach to managing heart failure symptoms. Complementary and alternative medicines (CAM) are medical practices, products or systems that do not conform to the standard beliefs of conventional medicine. Complementary therapy is a non-mainstream approach used in combination with conventional medicine. An alternative medicine approach replaces conventional therapy altogether (Chow, 2023).

Mind-body medicine also falls into the CAM domain. According to the National Center for Complementary and Alternative Medicine (NCCAM), mind-body medicine focuses on various practices associated with health promotion, including Relaxation, Hypnosis, Visual Imagery, Meditation, Yoga, Biofeedback, Tai Chi, Qi gong, Reiki, Cognitive behavioral therapy, group support, or Spirituality. It is important to know that there is a lack of federal guidance and

regulation of CAM products sold in the US. These products are readily accessible to consumers and are becoming more popular. It is estimated that more than 30% of people with heart failure use CAM, and 1 in 5 have used herbal therapy annually (Chow, 2023).

Misconceptions regarding their benefits have increased the popularity of these products, while the negative effects have been underemphasized and underreported. People who purchase over-the-counter CAM products are often taking prescription medications, which can result in harmful drug interactions. For example, kava is made from *Piper methysticum*, a plant native to the western Pacific Islands. In the South Pacific, kava is consumed as a beverage socially in ceremonies to promote relaxation, similar to how alcohol is consumed in Western societies. Kava is thought to reduce stress, anxiety and insomnia. It can be taken in tea, capsule, powder or liquid form. However, many have reported liver toxicity, leading to an FDA warning as well as many countries banning or restricting it. Always check the product websites for actual contents of the supplement and read product reviews. CAM products can cause toxicity, which can occur through direct organ toxicity or drug-drug interactions. People should always share information with their health care professional about using complementary and alternative medicine. Shared decision-making between patients and health care professionals is necessary to identify ways to safely integrate CAM into a care plan if desired. A 2022 scientific statement from the American Heart Association provided information on a variety of CAMs and their use in people with heart failure. Shared decision-making is a model of care engaging patients in their medical decisions. It operates under two assumptions: Patients have good information and knowledge. Patients should ask questions and express their preferences and opinions regarding their disease and treatment options (Chow, 2023).

Alternative therapies that may benefit people with heart failure include: Omega-3 polyunsaturated fatty acids (PUFA, fish oil) have the strongest evidence among complementary and alternative agents for clinical benefit in people with heart failure and may be used safely, in moderation, in consultation with their health care team. Omega-3 PUFA is associated with a lower risk of developing heart failure and, for those who already have heart failure, improvements in the heart's pumping ability. There appears to be a dose-related increase in atrial fibrillation, so doses of 4 grams or more should be avoided. Yoga and Tai Chi, in addition to standard treatment, may help improve exercise tolerance and quality of life and decrease blood pressure (Chow, 2023).

Meanwhile, some therapies were found to have harmful effects, such as interactions with common heart failure medications and changes in heart contraction, blood pressure, electrolytes and fluid levels: while low blood levels of vitamin D are associated with worse heart failure outcomes, supplementation hasn't shown benefit and may be harmful when taken with heart failure medications such as digoxin, calcium channel blockers and diuretics (Chow, 2023).

The herbal supplement blue cohosh, from the root of a flowering plant found in hardwood forests, might cause tachycardia, hypertension, chest pain and hyperglycemia. It may also decrease the effect of medications taken to treat high blood pressure and Type 2 diabetes (Chow, 2023).

Lily of the valley, the root, stems, and flower of which are used in supplements, has long been used in mild heart failure because it contains active chemicals similar to, but less potent than, the heart failure medicine digoxin. It may be harmful when taken with digoxin by causing hypokalemia. Lily of the valley also may cause irregular heartbeat, confusion and tiredness (Chow, 2023).

Other therapies have been shown as ineffective based on current data, or have mixed findings, highlighting the importance of patients having a discussion with a healthcare professional about any non-prescribed treatments. Routine thiamine supplementation isn't shown to be effective for heart failure treatment unless someone has this specific nutrient deficiency. Research on alcohol varies, with some data showing that drinking low-to-moderate amounts (1 to 2 drinks per day) is associated with preventing heart failure, while habitual drinking or intake of higher amounts is toxic to the heart muscle and known to contribute to heart failure (Chow, 2023).

There are mixed findings about vitamin E. It may have some benefit in reducing the risk of heart failure with preserved ejection fraction, a type of heart failure in which the left ventricle is unable to properly fill with blood between heartbeats. However, it has also been associated with an increased risk of hospitalization in people with heart failure (Chow, 2023).

Co-Q10, or coenzyme Q10, is an antioxidant found in small amounts in organ meats, oily fish and soybean oil, and commonly taken as a dietary supplement. Small studies show it may help improve heart failure class, symptoms and quality of life, however, it may interact with blood pressure lowering and anti-clotting medicines. Larger trials are needed to better understand its effects (Chow, 2023).

Hawthorn, a flowering shrub, has been shown in some studies to increase exercise tolerance and improve heart failure symptoms such as fatigue. Yet it also has the potential to worsen heart failure, and there is conflicting research about whether it interacts with digoxin (Chow, 2023).

“Overall, more quality research and well-powered randomized controlled trials are needed to better understand the risks and benefits of complementary and alternative medicine

therapies for people with heart failure,” said Chow. “This scientific statement provides critical information to health care professionals who treat people with heart failure and may be used as a resource for consumers about the potential benefit and harm associated with complementary and alternative medicine products” (Chow, 2023).

After reviewing the research of both standard medical therapies/treatments and complementary/alternative therapies, there are benefits to both. I would discuss the treatment options in detail with my patients. It is important that they know the benefits and risks, before deciding how they want to manage heart failure. The medication that I would recommend would be Entresto because I have seen firsthand how well it has worked for my 83-year-old grandmother. I would stress the importance of lifestyle changes, offer information on heart healthy diet, DASH diet, smoking cessation information, and encourage them to exercise. I would encourage patients to keep a blood pressure diary, to weigh daily, and report any weight gain over 4lbs to the health care provider immediately. In addition, I would recommend cardiac rehabilitation providing their insurance covered it. Should the patient have an advanced stage of heart failure, I would advise them to discuss surgical treatments with their cardiologist.

In conclusion, there are many treatment options available for patients with heart failure. Each patient is unique and should have input regarding their treatment plan. It is the medical professional’s responsibility to inform the patient of the options that would benefit them the most. The goal is to administer heart medication in conjunction with lifestyle modifications to influence cardiac function, giving the best quality of life possible.

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