Heart Health

PHOTO CREDIT: JOHN RUSSO

Actress Jennie Garth Shares Her Top Heart Health Tips

Melinda Carter

Many families know firsthand the toll that heart issues can take on health and well-being, and actress Jennie Garth learned this fact from an early age.

Both of Garth's parents have faced heart-related issues, including high cholesterol and high blood pressure — two established risk factors for heart disease, according to the American Heart Association. Garth's father had his first heart attack at 37.

"Not only did it drastically change my life circumstances, it educated me on the seriousness of the disease and the impact it has on not just the individual, but the whole family," says Garth, who starred in *90210* and *What I Like About You*.

The World Health Organization estimates that heart disease kills 17.9 million people each year, more than any other cause of death.

After her father's heart attack, Garth and her family began to make changes to their diet and lifestyle habits. Garth herself committed to taking a more proactive role in her own heart health, especially as she aged.

Breaking old habits

Reflecting on her family's health habits while she was growing up, Garth says that it wasn't all bad. While living in the Midwestern U.S., her family grew their own vegetables and raised pigs. But the diet high in animal fat that her father grew up with in the South was high in cholesterol and thus insidious to his heart.

Garth now eats a plant-based diet and avoids dairy and meat, which she said can cause inflammation and stress to the digestive system. Limiting animal products as much as possible is one of her tips for improving heart health.

"There are so many non-meat, non-dairy options available nowadays," says Garth. "You can get plant-based butter at most grocery stores, and milk alternatives, like oat, almond, and cashew, to name a few. Even if you don't think you'll like the taste, try it. You might be surprised."

> **Being your own health advocate is the key. Knowing your genetic predisposition and your numbers is everything.**

Research backs up Garth's advice, showing that plant-based diets can help delay the progression of, reverse, and prevent heart disease.

Getting regular exercise is another heart-healthy habit that Garth follows and that studies support for heart health. "Even if it's a 15-minute brisk walk, just elevate your heart rate every day to get that blood pumping," she suggests.

Advocating for your health

When Garth turned 35, she began seeing a cardiologist. She made the choice in part to alleviate the worry she felt from her family health history.

"I was very nervous that first visit, but was so happy to hear that my arteries weren't in fact like my dad's," she says. "Having that information and reassurance helped me to move forward with less anxiety about it."

A heart health examination did reveal that Garth had a slight valve prolapse, which is a heart abnormality that's usually harmless but sometimes requires treatment. In Garth's case, the prognosis was good, but she notes that having the information was helpful to keep in mind for the future.

She encourages anyone with concerns about their heart health to also be proactive, and to get to know their health care team.

"Being your own health advocate is the key. Knowing your genetic predisposition and your numbers is everything," says Garth, noting that body mass index, cholesterol, and blood pressure are key factors to know, as they can affect your ticker.

An echocardiogram and a stress test are two exams that can help your cardiologist detect issues, she adds.

"The fact is, you have one life, one body, and one heart," she says. "So take care of it. Care enough about yourself and the people you love to take your own health seriously and to be your own best advocate." ■

WEAR RED CANADA 2022:

Why #HerHeart Matters

Thais Coutinho, MD &
Lisa Comber, Canadian Women's Heart Health Alliance

Diseases of the heart and blood vessels are the number one killers of women worldwide and the leading causes of premature death in women in Canada. Despite this, women are under-studied, under-diagnosed, under-treated, and under-aware when it comes to their heart and blood vessel health.

Did you know that women may experience different heart attack symptoms than men?

Heart attack symptoms are not recognized in over 50 percent of women. Women most frequently report symptoms of chest pain or discomfort, which may be accompanied by a feeling of being unusually tired or shortness of breath.

It's important to seek immediate medical attention if you suspect you or someone else may be having a heart attack.

Risk factors for heart disease affect women differently

Lifestyle and medical factors can contribute to a woman's future risk for heart disease. Importantly, diabetes, high blood pressure, and smoking are more likely to cause heart disease or stroke in women than men. For example, women with diabetes are three times more likely to have heart disease than diabetic men. There are also specific risk factors for women in pregnancy and menopause. For example, complications that can occur during pregnancy such as pre-eclampsia and gestational diabetes, among others, can increase their future chance of having heart disease or stroke.

80 percent of risk factors for heart and blood vessel diseases can be prevented

Being active, eating well, managing stress, not smoking, and regular check-ups to assess and treat high blood pressure, blood sugar, and cholesterol reduce a woman's risk.

HER HEART MATTERS
WEAR RED CANADA • FEB 13

Wear Red Canada is celebrated annually across Canada on February 13 to raise awareness about women's heart health. The event is proudly hosted by the Canadian Women's Heart Health Alliance and powered by the Canadian Women's Heart Health Centre at the University of Ottawa Heart Institute. Learn more at **wearredcanada.ca**.

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Weldon Wadden with his daughter, Nancy Wadden

Many Canadians Fail to Realize This Diabetes Risk — Can You Guess It?

Understanding the connection between diabetes and cardiovascular disease is the first step for people living with diabetes to proactively manage their health.

Tania Amardeil

Many Canadians don't realize that type 2 diabetes (T2D) and cardiovascular disease (CVD) go hand in hand. Considering that 10 percent of Canadians are currently living with diabetes, according to Diabetes Canada[1] — with another 19 percent estimated to be undiagnosed or living with prediabetes — it's important that this connection be brought to light and that Canadians understand the risks and impact of diabetes.

Living with a life-altering condition

Weldon Wadden is a 74-year-old resident of beautiful Cape Breton, N.S. He was diagnosed with T2D 15 years ago after being prediabetic and monitored for years.

"It's a rough go for anyone who has diabetes," says Weldon. "It's horrible. The worst part is getting a sugar low and feeling so weak. I hate when I go through that."

Fortunately for Weldon, his daughter Nancy lives nearby and has been a constant source of support over the years as his primary caregiver.

Dr. Mansoor Husain
Executive Director, Ted Rogers Centre for Heart Research

Diabetes is a condition in which a patient's body can't make enough insulin to allow cells to efficiently take up dietary sugar, resulting in sugar buildup in the blood. The resulting blood sugar highs and lows cause weakness, drowsiness, light-headedness, irritability, and a host of other symptoms, and in extreme cases can lead to loss of consciousness and seizures — and eventually, to heart disease. In fact, Weldon now has congestive heart failure and has been through two heart surgeries.

The T2D and CVD connection

"If you have diabetes, your chances of having a heart attack or stroke or dying of heart disease are two to three times higher," says Dr. Mansoor Husain, Executive Director at the Ted Rogers Centre for Heart Research.

These shocking statistics may come as a surprise to Canadians, but health care practitioners have long understood the connection between T2D and CVD.

"We've known for decades that patients with diabetes have a much higher risk of developing heart disease and that when they do develop heart disease, they have a higher risk of dying from it," says Dr. Husain. "Many people with T2D don't just have diabetes but also comorbidities — like obesity, high blood pressure, and high cholesterol — so they often have a constellation of risk factors."

In addition, diabetes accelerates hardening of the arteries (atherosclerosis) and other forms of heart disease, too. According to Dr. Husain, doctors and scientists think it's because people with diabetes have inflammation in their blood vessels and slower blood flow.

A condition that affects patients and caregivers alike

Since being diagnosed with T2D, Weldon's life has changed dramatically. "I had to change how I ate, how I slept, and my activity levels," he says. Despite being in the fishing industry since the age of 12, Weldon's diagnosis forced him to take a step back. He still misses it. "I can see the ocean from where I live," he says. "Every day I drive around and look at the fishing boats."

The diagnosis has had a major impact on Nancy, too. As Weldon's caregiver, she pays close attention to her father's diet, daily exercise, and medication schedule, as well as to tiny clues that something may be amiss — like fatigue or a cough.

"My father's diagnosis also made me think of my own health a lot more," she says. "We tend to slough things off and just say, 'Oh, well, it's nothing serious,' but sometimes the little things can lead to serious issues."

> **My father's biggest support is me, and as a caregiver I get support from the Heart and Stroke Foundation's Care Supporters' Community, which is an online group. It helps remind me that I'm not the only one going through this.**

Getting much-needed support

There are plenty of resources available for patients and caregivers alike that can ease the burden of disease management and help T2D patients be more proactive in their health care. There's a lot of misinformation online, so accessing trusted and reputable resources is essential.

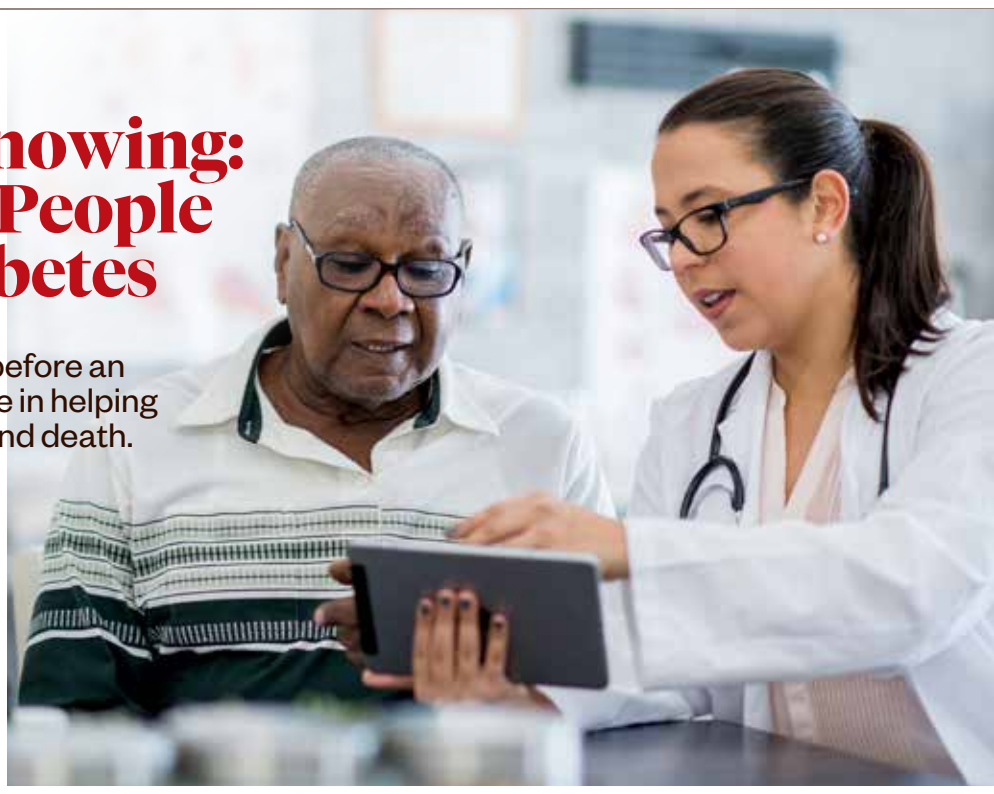
Dr. Husain recommends the Ted Rogers Centre for Heart Research's website, as well as the Heart and Stroke Foundation, Hypertension Canada, and Diabetes Canada.

"My father's biggest support is me, and as a caregiver I get support from the Heart and Stroke Foundation's Care Supporters' Community, which is an online group," says Nancy. "It helps remind me that I'm not the only one going through this." ■

If you or someone you love is managing T2D and CVD, visit **diabetes.ca**.

[1] https://www.diabetes.ca/DiabetesCanadaWebsite/media/Advocacy-and-Policy/Backgrounder/2021_Backgrounder_Canada_English_FINAL.pdf

The Power of Knowing: Diagnostics for People Living with Diabetes



Early diagnosis, sometimes even before an illness starts, can play a critical role in helping prevent disease, hospitalization, and death.

Abigail Cukier

People with diabetes are three times more likely to experience complications of cardiovascular disease, such as stroke, heart attack, or heart failure.[1]

But advanced diagnostics can detect changes in the body even before a disease occurs, helping identify if a patient with diabetes is at higher risk of cardiovascular disease. This allows health care providers and patients to make critical decisions sooner, enabling targeted prevention and treatment, reducing illness, hospitalizations, and deaths.

Dr. Abhinav Sharma
Cardiologist, McGill University Health Centre & Assistant Professor, Department of Medicine and Health Sciences, McGill University

Diagnostics are tests that detect diseases, conditions, and infections. And while much attention is paid to what happens after a diagnosis, in-vitro diagnostics are a crucial part of a patient's health journey and influence about 70 percent of clinical decision-making.[2]

Most diagnostics are based on biomarkers. "A biomarker is any type of measured signal that comes from the body that can indicate the presence of a disease or if a disease or complication is going to develop in the future," says Dr. Abhinav Sharma, a cardiologist at McGill University Health Centre and Assistant Professor in the Department of Medicine in the Faculty of Medicine and Health Sciences at McGill University.

i If you're living with type 2 diabetes and are concerned about the risk of cardiovascular disease, speak to your health care provider about available diagnostic testing and therapeutic interventions.

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Biomarker testing transforming the standard of care

Biomarkers can include blood pressure and heart rate, blood and urine tests, or a test like an electrocardiogram. The role of biomarkers has become essential in transforming the standard of care for many diseases. Biomarker testing potentially provides an opportunity to know more about what can be done in terms of treatment or lifestyle changes before a patient becomes sick, allowing their health care provider to make better decisions with more confidence.

It is amazing how much information can be found in a small blood or tissue sample — and how much that information could change someone's life, leading to lifestyle interventions or medical treatments that can keep them healthy. A test might find a more serious threat and lead to a life-saving decision.

Advances in diagnostics are leading to a new level of insights, contributing to better patient outcomes and enabling health care providers to provide more personalized treatment. Technologies like machine learning and artificial intelligence are opening the door to even more possibilities, leading to more accurate, earlier detection. For example, Dr. Sharma is involved in research examining the role of wearable devices to help detect if a patient may be at risk for diabetes.

Early detection allows patients and doctors to be more proactive

Health care providers can use many diagnostic tools together to achieve the best possible outcomes. "For example, we can create a risk score, by taking a patient's biomarkers and their medical history, to see whether they are at high risk of developing cardiovascular disease," Dr. Sharma says. "We need to be very proactive in trying to identify those who may be at the highest risk of developing complications from diabetes, because often, complications like heart failure can slowly progress with no symptoms and then are found at a later stage."

Heart failure is one of the main complications of diabetes, says Dr. Sharma, and can lead to serious illness and death. For Canadians over age 65, it is the second most common cause of hospitalization.[3]

One way to detect if someone is at increased risk of heart failure is a blood test for NT-proBNP, a type of natriuretic peptide, which are hormones that are made by the heart when its wall is stretched.

"Research shows that even if a person is feeling reasonably well, natriuretic peptides are often released because the heart is undergoing subtle changes. This may give an early clue that heart failure may develop," Dr. Sharma says. "Once we have this information, there is reason for hope. Because now we can take steps to prevent it [heart failure] from happening."

Early diagnosis and risk identification can also empower patients. This is why it is important for people living with diabetes to ask their health care providers about available diagnostic tools. If a patient knows their risk factors or has an accurate diagnosis, they can be involved in treatment decisions and take steps to change their lifestyle. This not only improves their health and reduces the risk of hospitalization, it can also give them a greater sense of control — something that can feel absent when living with a chronic disease. ■

[1] https://www.heartandstroke.ca/heart-disease/risk-and-prevention/condition-risk-factors/diabetes
[2] https://www.aacc.org/advocacy-and-outreach/aacc-policy-reports/2015/laboratory-medicine-advancing-quality-in-patient-care
[3] https://www.cihi.ca/en/hospital-stays-in-canada

How to Protect Your Heart if You Have Diabetes

Diabetes Canada

Did you know that diabetes contributes significantly to the development of cardiovascular disease? People living with diabetes are at risk of experiencing a heart attack or stroke 15 years earlier than those without diabetes! That may be a shocking statistic to some, but it's true.

High blood glucose (sugar) is one risk factor for heart disease. Others include being overweight, inactivity, high blood pressure, and high cholesterol. People who smoke or have a family history of heart disease or stroke are at even higher risk.

The good news is that people living with diabetes can lower their risk of heart disease and stroke considerably by paying careful attention to all their risk factors. Working with your health care team to achieve the following targets is the key to good diabetes management. ■

i Learn more about medications to reduce the risk of heart disease or stroke at **diabetes.ca/yourheart**.

The ABCDEs of Diabetes Management

A — A1C — A1C is a blood test that measures your average blood sugar level over 120 days. Most people should aim for an A1C of 7 percent* or less.

B — Blood pressure — Your blood pressure should be less than 130/80* mmHg.

C — Cholesterol — The LDL (bad) cholesterol target is less than 2.0* mmol/L.

D — Drugs to protect your heart — Speak with your health care team about medication to protect against heart attack and stroke, such as blood pressure pills (ACE inhibitors or ARBs), cholesterol-lowering pills (statins), and others.

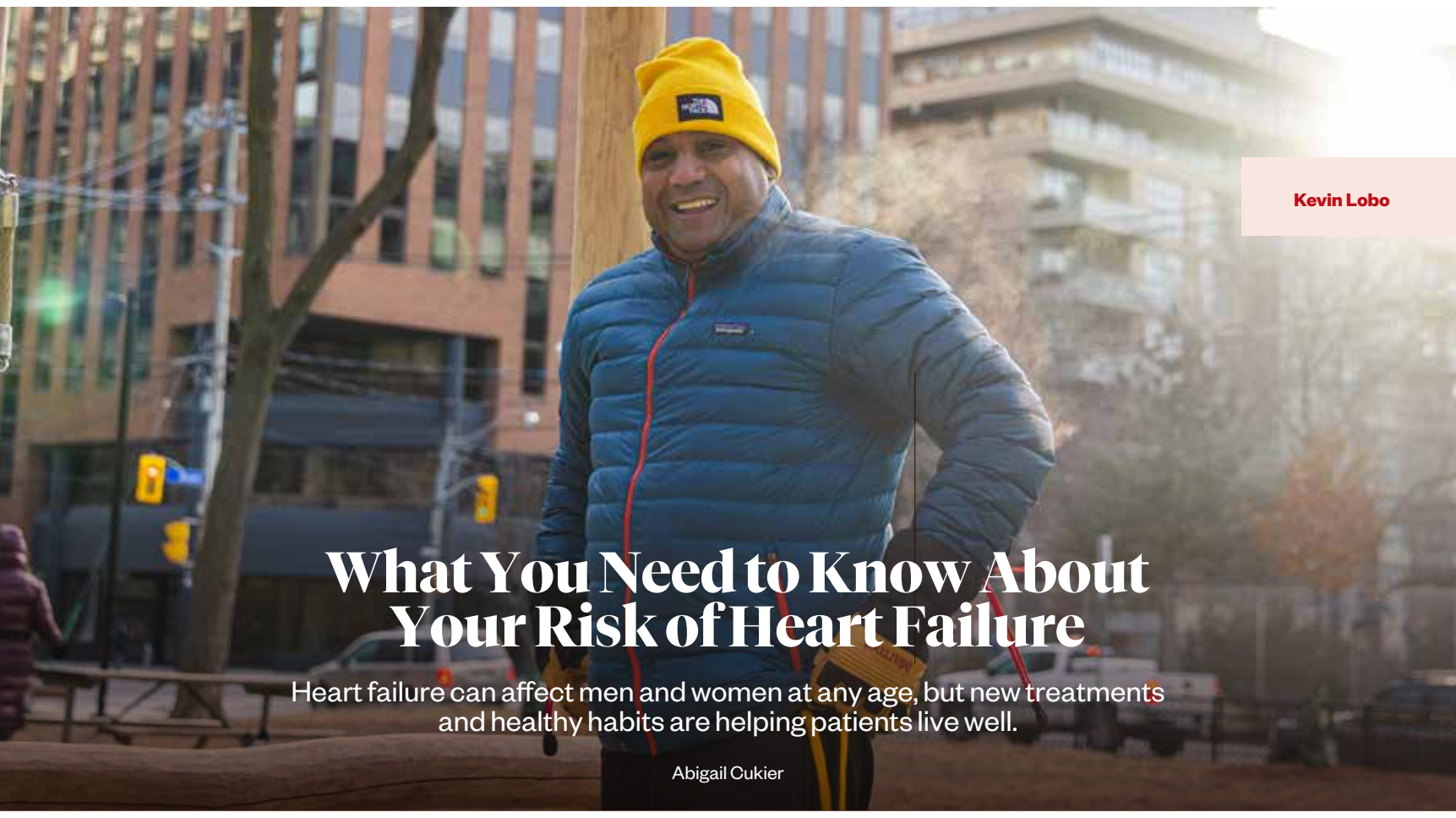
E — Exercise and eating — Regular physical activity and a healthy diet can help you achieve and maintain target blood sugar levels.

S — Screening for complications — Ask your health care team about tests for your heart, feet, kidneys, and eyes.

S — Smoking cessation — Stop smoking or seek help to quit.

S — Self management, stress, and other barriers — Set goals for yourself to manage stress effectively and live well with diabetes.

**Discuss your target values with your health care team. Note that A1C targets for pregnant women, older adults, and children may be different.*



Kevin Lobo

What You Need to Know About Your Risk of Heart Failure

Heart failure can affect men and women at any age, but new treatments and healthy habits are helping patients live well.

Abigail Cukier

About 10 years ago, Kevin Lobo was walking his dog when his foot started swelling and his heartbeat rapidly sped up. After a friend rushed him to hospital, Lobo was diagnosed with heart failure.

"I didn't even know what heart failure was," Lobo says. "I was in my mid-forties. I was very fit. I would cycle up to 100 kilometres a day. I boxed and played soccer. I was absolutely terrified. But the doctors and nurses were amazing and every day you get stronger."

Heart failure is a condition caused by the heart not functioning as it should or a problem with its structure. This can lead to fatigue, fluid build-up, which in turn leads to shortness of breath, tiredness, coughing, and swelling in the legs, ankles, or abdomen. Sometimes the fluid in the lungs can accumulate to the point where it can cause a life-threatening condition called acute pulmonary edema.

Dr. Stephanie Poon
Cardiologist, Sunnybrook Hospital

About 750,000 Canadians live with heart failure and it's a leading cause of hospitalization.

"Many people don't realize the seriousness of heart failure," says Dr. Stephanie Poon, a cardiologist at Sunnybrook Hospital. "The mortality rate is higher than breast cancer in women and higher than prostate cancer in men."

Risk factors include smoking and family history

Heart failure can affect men and women of all ages. The most common cause is damage to the heart muscle caused by a heart attack. Other causes include high blood pressure, viral infections, diabetes, valve disease, abnormal heart rhythms, and congenital heart disease. Risk factors for heart attacks include high blood pressure, high cholesterol, diabetes, and a family history of the disease.

"One of the common myths we're trying to break is that this is just a disease you get when you're older," says Dr. Poon. "There are actually a lot of younger people who have heart failure."

Since his diagnosis, Lobo has been monitored regularly and is on medication. He's also more mindful of making balanced eating and physical activity choices to promote his overall health, like eating more vegetables and decreasing his portion sizes, as well as exercising regularly.

Dr. Poon says that she teaches patients with heart failure to restrict their fluid and sodium intake, exercise regularly, stop smoking, and monitor for symptoms. She notes that anyone at risk for heart failure should discuss it with their health care provider, watch for signs of the disease, and follow healthy habits like exercising, quitting smoking, and eating nutritious foods.

Advances providing new class of treatment options

As for medical treatment, Dr. Poon explains that some people with heart failure have a weak heart that cannot pump enough blood to the rest of the body. "If you have a weak heart, there are many different classes of medications that have been shown in clinical trials to help you live longer and keep you out of the hospital from heart failure, and a few of them can also help the heart get stronger," she says.

In the other type of heart failure, the heart is strong but stiffer than normal. Because of this, the ventricles can't relax and fill properly, which results in less blood being pumped to the rest of the body.

> **There have been so many huge advances in recent years in the world of heart failure that it has really been an exciting time for all of us who specialize in this area.**

"There have been so many huge advances in recent years in the world of heart failure that it has really been an exciting time for all of us who specialize in this area," Dr. Poon says. "I tell patients that we have a lot of effective medications and, along with lifestyle changes, I have patients who forget they even have heart failure because their quality of life is pretty much back to where it used to be."

Lobo agrees. He suggests that other patients with heart failure learn as much as they can. "You're not the first one going through this," he says. "Talk to your health care provider. Join a support group. Understand everything you can and then make the changes you need to. Don't be afraid. You're not alone." ■

Visit **heartlife.ca** and **heartfailure.ca** to learn more about heart failure and access resources to start a discussion with your doctor.

This article was made possible with the support from an alliance of two of Canada's leading research-based pharmaceutical companies.

3 Tips for Balancing Work and Maintaining Good Health with Heart Failure

Each individual will experience heart failure differently, depending on their symptoms and the frequency with which they affect them. As a result, you can't predict how things will be following a heart failure diagnosis. But many patients can and do lead a full and normal life when they manage their illness and focus on self-care.

HeartLife Foundation

More than half a million Canadians are living with heart failure and there's currently no cure for this chronic illness. While the illness typically affects people later in life, it can affect all ages, and each patient case is unique. Because of this, it's important to raise awareness of the signs and symptoms of heart failure, especially considering early diagnosis of heart failure ensures optimal treatment.

It's important to take things one day at a time to avoid undue stress on the heart or lead to feelings of anxiety or depression. We've rounded up some tips that can help you find the balance that works for you during your journey with heart failure.

1 Assess your work situation

The University of Ottawa's Heart Institute explains that not everyone who is diagnosed with heart failure needs to stop working. Nonetheless, it's best to wait until your symptoms have stabilized and your medications are optimized before you consider returning to work. The type of work that you do will also affect when you return to work.

If you work in an office, you may be able to return to work sooner than if you have a stressful or physically demanding job. The University of Ottawa's Heart Institute recommends returning to work gradually as it will be less tiring if you start working part-time, at least at the beginning.

At work, listen to your body and take regular breaks to get fresh air, walk around, and stay hydrated. It's important that your employer understands your situation and that you find the right system for you. Similarly, if you are self-employed, allocate time for breaks in your schedule and only take on the level of work within your capabilities.

2 Schedule time for exercise

Heart failure can change the types of muscle fibres in your body and decrease the number of fibres for endurance. Thankfully, exercise allows the body to become more efficient in its use of oxygen. Making exercise a part of your regular routine can help you feel better and reduce some of the symptoms associated with heart failure, such as shortness of breath and fatigue.

3 Look after your mental health

If you feel helpless and you're struggling to cope with heart failure, you are not alone. Ongoing feelings of anxiety or depression can interfere with your relationships and daily activities, which is why it's important to talk to your doctor, nurse, social worker, or loved ones if you're feeling this way. Identifying what causes you stress and developing therapeutic plans to manage those times can help.

Seeking support from heart failure networks and sharing your story can also help you to understand that others are going through a similar experience. The HeartLife Foundation's closed Facebook Support Group is always there when you need it.

Remember to make time to focus on self-care and finding the right balance that works for your unique personal journey with heart failure. ■

To learn more about the HeartLife Foundation, please visit **heartlife.ca**.

Q&A WITH DR. DOAA AL SAMRAE:

The Bright Idea That Saved Her Baby's Life

When Dr. Doaa Al Samrae's unborn daughter Nadine was diagnosed with a congenital heart defect, an unusual in-utero intervention saved her life.

Tell us about your family's journey with Nadine's diagnosis.

During my pregnancy while living in Dubai, my child was diagnosed with a congenital heart defect (pulmonary atresia with intact septum) at the 20-week scan. This condition where the main connection that sends the blood from the heart to the lungs is closed, would have made her develop hypoplastic right heart syndrome, commonly known as "half a heart" syndrome after birth. My husband and I were told that there was nothing that could be done to prevent it, and that the child would need many surgeries after birth, experience many difficulties, and have a low life expectancy. I went home and cried for hours. Suddenly, I remembered a scene from *Grey's Anatomy* where a surgery was performed on a baby inside the mother's womb. In my region and many parts of the world, such a surgery was not known or imagined. I immediately started researching whether this surgery would be possible for my unborn baby. My husband and I began contacting hospitals around the world. Despite difficulty getting in contact and the short window of opportunity, we finally received an email from the team at University Hospitals Rainbow Babies and Children's Hospital in Cleveland, Ohio.

We travelled the world to save her life and underwent in-utero surgery, a procedure performed on a fetus in the uterus. This prevented the condition by creating an opening between the heart and the lung, allowing the heart to grow. When the doctors in Dubai witnessed her heart grow following the surgery, they started to tell others about in-utero intervention — so before she was born, she was already saving lives! That's why we named her Nadine, which means "hope" in French and why we call her story "Hope from the Womb".

Dr. Doaa Al Samrae with her daughter Nadine (right) and their family

Babies with congenital heart defects may have other conditions and we later discovered that Nadine also had craniosynostosis, a head condition. On her first birthday, Nadine had her first head surgery to expand her skull and allow her brain to grow. After four surgeries in total, she is now a two-year-old thriving baby and an amazing heart and cranio warrior.

Is there a part of Nadine's heart health journey that's been particularly triumphant?

The most difficult part of this journey is when I gave birth to Nadine. We knew, despite the fetal heart intervention, that there was a possibility that the opening would close again. I delivered my baby through a Cesarean section, and I didn't see her. She was taken to Al Jalila Children's Specialty Hospital in Dubai right away to fight for her life. That was very difficult for me. Immediately, we heard the news that the opening was closed, and that the doctors would attempt to open it with minimally-invasive surgery. When that didn't work, we were told that she would have to have open-heart surgery on the third day of her life. I was taken by wheelchair to the children's hospital so I could see my baby for the first time, before she went into surgery. She went in, with a big group of doctors, and after the long hours of open-heart surgery, I saw my miracle baby being brought toward me, her father, and our families who were standing beside us the entire time by the amazing medical team, alive.

What's the biggest misconception about congenital heart defects and what do you want parents to know?

Congenital heart defects are common, with 1 in every 100 babies affected. Yet, the funding for research is limited. But in the last 10 years, new surgeries have saved 30 percent more lives. Funding more research has the ability to save thousands of children's lives.

We also want parents to understand the importance of pregnancy scans, early diagnosis, and collaboration between health care teams and parents for the best of the baby. People around the world may not know that life-saving surgeries exist — and doctors may not be up to date. As I knew about in-utero surgery because of *Grey's Anatomy*, I hope other people know about these possibilities because of Nadine's story. ■

To learn more about Nadine, her family, and their story, follow **@nadines_heart** on Instagram and TikTok.

Novel Tool Gives Hope to Patients with Congenital Heart Defects

An innovative new diagnostic tool has dramatically improved how heart conditions are diagnosed and managed.

Tania Amardeil

Congenital heart disease (CHD) is not to be confused with coronary artery disease or congestive heart failure. Congenital means that the condition is present at birth, not acquired. We often think of heart conditions as things that happen later in life, but thousands of babies are born with congenital heart defects every year.

Fortunately, new innovations are changing the CHD diagnosis and treatment landscape.

A disease that doesn't discriminate

"About 1 in 100 babies are born with a heart defect, sometimes also referred to as structural heart or blood vessel defects," says Allan Weatherall, Executive Director of the Canadian Congenital Heart Alliance (CCHA). "Some are born with small abnormalities that can repair themselves without surgical intervention, while others have huge challenges that require immediate surgeries."

Allan Weatherall
Executive Director, Canadian Congenital Heart Alliance (CCHA)

Parents are understandably overwhelmed to learn that their child is included in the one percent, and a CHD diagnosis has a huge impact on entire families. The CCHA focuses on supporting these families and empowering patients with education.

"Our mission is advocating for and enriching the lives of people with CHD through awareness, education, research, and support," says Weatherall. "We're the only national organization that supports people of all ages from coast to coast with CHD. We're made up entirely of volunteers and we depend on donations to support our work."

Weatherall notes that the future for babies born with CHD is much brighter than it used to be. "Years ago, only about 20 percent of people born with CHD reached adulthood, but now, thanks to advancements in technology like what Ventripoint Diagnostics has been doing, it's about 95 percent," he says.

A new and better diagnostic tool

Ventripoint Diagnostics was created to improve cardiac diagnostics. The traditional echocardiogram used to provide medical imaging of the heart is a limited tool rife with challenges. "It's very difficult to get clear images of the right heart using echocardiography," says Dr. George Adams, CEO of Ventripoint Diagnostics. "The alternative is an MRI, but that means putting a child or infant in an MRI machine for up to two hours, which requires anesthetizing them and putting them on a ventilator. That's quite a traumatic experience."

Ventripoint Diagnostics' VMS+ tool was borne out of need. Doctors needed a better way to monitor the heart state and make confident diagnoses. Furthermore, many patients suffering from CHD are monitored throughout their lives, thus requiring numerous scans.

Dr. George Adams
CEO, Ventripoint Diagnostics

Many with CHD have complex anatomy that can be difficult to see with some technologies. Using innovative technology and a unique AI approach, the VMS+ can decipher technically-challenging echocardiogram images, turning them into precise, accurate, 3D visualizations. "It gives you exactly the same information as an MRI but from standard two-dimensional ultrasound scanning," says Dr. Adams. "With hospitals having much longer waiting lists for expensive MRI technology this solution is faster, more accessible, and less traumatic for patients and parents."

This innovation has been especially helpful in diagnosing children born with CHD, although it can help with diagnosing and monitoring all types of heart conditions. And fortunately for patients and doctors, this technology is now available in major hospitals across Canada, including University Health Network Peter Munk Cardiac Center, St. Michael's Hospital, Stollery Children's Hospital, and more. ■

Learn more about Ventripoint Diagnostics in Canada and the CCHA by visiting **ventripoint.com** & **cchaforlife.org**.

This article **was sponsored by Ventripoint Diagnostics**.