

The Holistic Heart: An Interview With Mimi Guarneri, MD, FACC

Interview by Karen Burnett

Board-certified in cardiology, internal medicine, nuclear medicine, and holistic medicine, **Mimi Guarneri, MD, FACC**, is the founder and senior consultant in integrative medicine of the Scripps Center for Integrative Medicine. Her medical degree is from SUNY Medical Center in New York. Dr Guarneri served her internship and residency at Cornell Medical Center, where she later became chief medical resident. She served cardiology fellowships at both New York University Medical Center and Scripps Clinic. She served as an attending physician in interventional cardiology at Scripps Clinic, where she placed thousands of coronary stents.

Recognizing the need for a more comprehensive and more holistic approach to cardiovascular disease, she pioneered the Scripps Center for Integrative Medicine where she uses state-of-the-art cardiac imaging technology and lifestyle change programs to aggressively diagnose, prevent, and treat cardiovascular disease.

Dr Guarneri participated as a member of the writing committee for the American College of Cardiology Foundation Complementary Medicine Expert Consensus Document. This expert consensus statement on integrating complementary medicine into cardiovascular medicine was published in 2005. She is the author of *The Heart Speaks*, a poignant collection of stories from heart patients who have benefited from integrative medicine approaches.

She was recognized in 2011 for her national leadership in integrative medicine by the Bravewell Collaborative with the Bravewell Leadership Award and now serves as chair of the Bravewell Clinical Network for integrative medicine. In 2008, she was honored by Project Concern International for her work in Southern India, and she currently serves on the International sub-committee for Direct-Relief International. Dr Guarneri also served on an advisory panel for the Institute of Medicine to explore the science and practice of integrative medicine for promoting the nation's health. The summit's findings were released in 2009. She was elected president of the American Board of Integrative and Holistic Medicine and in 2012 received the Linus Pauling Functional Medicine Lifetime Achievement Award from the Institute for Functional Medicine.

Integrative Medicine: A Clinician's Journal (IMCJ): You have had an unusual journey in becoming a prominent doctor, having studied English literature as an undergraduate before going on to medical school. Could you please tell us where you grew up and how you eventually became interested in studying medicine?

Dr Guarneri: I grew up in Brooklyn, New York, in a very traditional Italian enclave, where a lot of people spoke in Italian and many, many immigrants from Italy settled, so culturally, it was a reflection of that. A lot of people in my family had heart disease, and I also had a wonderful uncle—a physician who was loved by everyone. Through him I got to see medicine as a wonderful profession—one of service to people. It truly inspired me in many ways to study and practice medicine.

IMCJ: What inspired you to make the move from English literature to studying medicine?

Dr Guarneri: I was never going to be an English literature professor; that was not my intention. I really wanted to be very rounded in my activities in college. I was premed, but with an English literature background. I love literature, I love reading, and I love poetry, so it was a great way for me to do my sciences from the medical side but also to not forget some of the other things that I loved, as well, which was literature and poetry.

IMCJ: Do you believe that your study in the field of humanities has helped your work as a doctor?

Dr Guarneri: I think enormously. It has kept me grounded on the human side of the work. When I was at NYU, we studied quite a few war poets and poets who had lots of emotional issues. We saw how people pour their hearts and their passions out in their writing and how writing frequently expresses the human condition. So, I absolutely think it impacted my sensitivity and my empathy to my fellow human beings—the vulnerabilities that we all can face and the complexity that we all are.

IMCJ: You worked at the Scripps Clinic as an attending physician in interventional cardiology and you saw the need for a more holistic approach to cardiovascular disease. What made you realize this need for a change in health care?

Dr Guarneri: I was doing everything I could do from a Western medicine perspective for my patients, but I recognized that what we do in Western medicine is good for acute care. If someone is having a heart attack it's great to be able to open an artery with a stent and restore blood flow to the heart. But I also realized that we were not doing anything to prevent cardiovascular disease, and so I thought, "How can we potentially be as good in prevention as we are at intervention," and that was the first step in my journey toward doing the work at the Scripps Center for Integrative Medicine.

IMCJ: Did you have any particular cases that sparked this epiphany?

Dr Guarneri: I had many patients who had procedures in the cardiac cath [catheterization] lab and then would go home—only to come back 6 or 8 months later and have another procedure. It really got to the point where we would joke and say, "This patient has a gold card" or "This patient is a frequent flyer," because they just kept coming back; it was like a revolving door. I realized during that process that we weren't doing anything to turn off the faucet—to empower people toward health.

In the 1990s, I met Dean Ornish and we started to do research with the Ornish Program, so while we were putting in stents and doing all the intervention work, we were simultaneously studying diet—a vegetarian diet with 10% fat—yoga, and meditations, support groups, and exercise in very, very sick heart patients. I really started to see how people's lives could be impacted through lifestyle change. As the research was coming to an end, we—Rauni King, who was cofounder of the Integrative Center and the nurse who was conducting the research with me—looked at each other and said, "We can't just let this good work go

now that the research study is over," and that led us to create the Scripps Center for Integrative Medicine.

IMCJ: How did you make the Scripps Center for Integrative Medicine come to be?

Dr Guarneri: As I said, because we were already doing research, we had nutritionists in place and we had a vegetarian cooking school and yoga and meditation classes and exercise physiologists and we had a psychologist doing group support—we had a good foundation established. In addition, we had a very active mindfulness-based stress-reduction program going at the same time and Rauni King was running a lot of healing-touch classes. So we said, "What if we take these pieces that we have—the healing touch training, the mindfulness-based stress reduction, and the Ornish Program—and we put them all together and call it Scripps Center for Integrative Medicine." That is, basically, what we proposed to the Scripps administration.

We were told by the administration, at the time, that it was fine for us to do, but they had no resources—no money that they would give us—to support that endeavor. We did some fundraising and raised the money to support having a space and hiring people to do the work.

IMCJ: How would you describe the Scripps Center for Integrative Medicine to a patient who needs this kind of help but does not know anything about it?

Dr Guarneri: I like to, first, educate people that we treat the whole person: body, mind, emotions and spirit. From a physical perspective, we address all the things that you would address, whether it is someone's laboratory data, blood pressure, sleep apnea ... whatever is there. But then we also look at where someone is at psychologically. Are they angry? Are they stressed? Are they depressed? Are they socially isolated? All of these are independent risk factors for disease.



What really makes us different from Western allopathic medicine, which is so good at acute disease, is that it treats chronic disease like it's acute disease. What I mean by that is when someone has an acute problem, you say, "Okay, let's do medicine. Let's do surgery. Let's fix the acute problem." We have taken that "ill to the pill" mentality and we've put that on chronic disease management. And so people say, "I have diabetes and I'm going to take this pill, and my cholesterol is high and I'm going to take that pill." I explain to the patient that in integrative medicine it is like you are a tree and you have unhealthy fruit. We go into the soil and say, "Okay, what can we do to nurture your soil?"

If you do have diabetes you may still need a medicine, but we're also going to ask the questions: "Is the diabetes being caused by pesticides in the food? Is it being caused by sleep apnea? Is it being caused by what you're eating? Is it because your micronutrients are low? What is causing the diabetes in the first place? What is the underlying cause?" Frequently that is forgotten in Western medicine.

I frequently give my patients a picture of a tree and I tell them let's label the fruit on the tree with whatever is going on with them as if the fruit was sick, and my patients will label the branches and they'll say, "Well, I have diabetes, I have heart disease, I have reflux, I have depression, I have high blood pressure"—whatever it is. I point out to the patients that the Western medicine approach is to either cut off the branch, bypass the branch, or give medication for each of the individual issues that are going on. I then ask the patients, "If you had a sick tree or a sick plant what would you do?" The patients always say, "I would give it more sunlight, I would give it better water, or I would fertilize the soil," and then I say, "Okay, so let's look at your soil, so what goes on in the soil." So then I take them down to the roots of the tree and say, "Okay, we have macro- and micronutrition. We have physical activity. We have stress and resiliency. We have social connection. We have physical activity, toxins, and so on. These are the things that make up your soil."

If we identify a fruit as sick, say it's high blood pressure, we have to look in the soil and ask, "Is there something you're eating that is doing this—ie, are you eating too much salt, packaged foods, and processed foods? Are you not physically active? Is your magnesium low? Low magnesium is associated with high blood pressure. Is it because you're stressed? Is it because you're angry? Is it because you have sleep apnea? Sleep is one of the roots of the tree." Patients then get it right away and they realize, "Wow, if I strengthen my soil I can impact what's going on with me!" It sure motivates them to make the changes that we need them to make.

IMCJ: Do you have classes to teach them yoga and tai chi and how to do vegetarian cooking?

Dr Guarneri: Yes, we have four full-time cardiologists, two cardiac nurse practitioners, and three family practice physicians. We have all the state-of-the-art technology you can possibly want from the Western medicine world and then, under the same roof, we have a vegetarian cooking school, yoga and meditation classes, a full fitness facility, and we have exercise programs—Pilates and swimming—and spirituality workshops.

Every Monday at noon we have a "Lunch and Learn" series where we give lectures on everything from transforming stress to friendship to learning to nutrition and exercise. It is really a one-stop shop, if you might, to represent health and wellness. We have people who come to us who are at all levels—from someone who has just come from a bypass surgery to someone who is a triathlete—because depending on where you are in your journey, you still want to have optimal health, right?

Not everyone needs the same things, so we say there are many paths to healing. I always like to use the wagon-wheel analogy, where to reach the middle of the wagon wheel there are many ways to get there. Some people may need more nutrition, other people may need more ways to transform how they respond to stress and tension, other people may need more social connection, some people really have to change the way they eat or exercise, others need to sleep better. The paths are different for each individual, so we try to personalize it in that way.

IMCJ: Assuming some patients are very motivated and some are motivated but not disciplined, what role do you give your patients in an integrative approach?

Dr Guarneri: Our goal is to teach; you have to remember, *doctor* means *teacher*. Our goal is to teach and to get people to take steps toward change, depending on where they are in the change spectrum, and to get people to be passionate—impassioned enough about their life to want to make changes. We want to get people to really look at what is important to them; and we found that participating in classes is incredibly important because patients benefit from the support of all the other people around them in addition to the staff.

We when we conducted the Ornish research in the 1990s, we used to bring in 15 or 20 people at a time and we called it a *cohort*, which means a *band of warriors*. Those groups really bonded and they stuck together. We noticed that when the cohort was bonded and strong and really supportive of each other, that those people did the best. We actually termed it the *cohort effect*, because there was no other way to explain why some groups did exceptionally well.

We look at where people are on the change continuum. We look at what is important to them. I ask my patients, "What is your purpose in life? What are your goals? What would you like?" My agenda isn't always their agenda.

IMCJ: Speaking of purpose in life, how do you address the aspect of spirituality for patients in your program?

Dr Guarneri: We have the spirituality workshop where we teach spirituality. The best way I can explain it—the concept of spirituality is a connection to something that gives you meaning and purpose in your life, something that helps you to make sense of your life. For some people that is connection to nature, and for some people that is connection to a higher power that they identify. For other people it is just going within themselves.

I explain it to the patients as: you can have a big river or a big lake and the lake has water. At the part of the lake that is touching Italy, people would call it *aqua*, and at the part of the lake that is touching the United States, people would call it *water*, but it's still the same thing by different names. It doesn't really matter to me. It is really asking those deeper questions, again: "What is my purpose in life? How shall I live knowing I will die? Where do I go for fulfillment?" These deeper questions are, for us, what spirituality is about.

IMCJ: You have referred to medicinal foods. Can you tell me some examples of what you consider medicinal foods?

Dr Guarneri: Take a food like a green, leafy vegetable; let's take cruciferous vegetables like broccoli, for example, which has sulforaphane in it and has anticancer properties. Turmeric is an anti-inflammatory spice that has anticancer properties. Cruciferous vegetables like broccoli, cauliflower, and so on, turn on phase 2 enzymes in the liver that help our bodies remove toxins. Blueberries are potent antioxidants—berries in general are potent antioxidants—good for the eye, good for the brain, good for the heart. Cranberries prevent bacteria from binding to the bladder wall. These are some of the ways to think about medicinal foods.

IMCJ: What kind of response did you receive for the Center when it first opened?

Dr Guarneri: It was mixed because a lot of physicians didn't understand; integrative medicine was a new thing. We coined the term "integrative cardiology." People thought it was about alternative medicine. People thought, "Oh, this is just about acupuncture." There was a lot of confusion about what it was and what it wasn't, and that really is what propelled me to start education programs. When people don't know, people make things up or they're afraid of it or it doesn't make sense to them. I positioned by saying, "Integrative medicine is not about just adding more tools to the toolbox. It's not about substituting an herbal medicine for Lipitor. It's really about getting to the underlying cause of the problem—addressing the whole person, body, mind, and spirit; focusing on health as

opposed to disease; recognizing that food is medicine; recognizing that our physical body is affected by our emotional body; recognizing the complexity of the human beings—that we are not just one pill here and one pill there and everything's going to be fixed; that our beings are part of our connection to the environment, to our tribe, to people in our lives, and how we live our lives."

It's a just totally different approach and it is not one that Western medicine had a paradigm for. What we were saying is, "Let's keep people healthy; let's get people toward optimal health." We're trying to this day to do it in a disease-care system. Hospital systems are not health care systems. They are disease-care systems and they are good for when you have disease. But after doing this for 17 years, I have finally come to realize that we need a parallel reality, a parallel universe that just focuses on prevention and utilizes all the tools that we can that are evidence-based for chronic disease management.

It's like we need two parallel paths that are equally powerful. In the early days, I said, "Let's have an intervention program." We did, and it was a strong approach. Let's have a prevention program that is equally as strong. That is what we really need to have for the country, not just for one hospital system.

When you have a heart attack you want to be in the hospital. You get hit with a truck, you want to get to a trauma center, but if you're overweight and you want to learn how to lose weight, there's a good chance you're not going to learn that in the hospital.

You need to be surrounded by people and places that are dedicated to doing this work. It's just that there is no money, there's no reimbursement, and that is where things have to change. Physicians have been incentivized consistently to do things to people, not to keep people healthy.

Medical doctors are experts at diagnosing and prescribing treatment, and that's needed, but when you try to manage chronic disease you need more than that. You can diagnose diabetes—that's great—but you better have a plan in place that goes way beyond medication. You need to teach someone how to eat. You need to get them exercising. You need to tell them to stop eating foods that have pesticides. You need to look at their stress levels. All of these things have to come together.

IMCJ: Do you feel like there's a change in the air since the Center opened?

Dr Guarneri: Definitely. It's a whole new ballgame, really.

IMCJ: What led you to write, *The Heart Speaks*, your book about integrative medicine approaches to the heart and the many aspects of the heart that often go unrecognized?

Dr Guarneri: That was really my journal. It was never intended to be a book. It was patients' stories, and I real-

ized that people can really benefit from other people's stories. If they just heard what other people went through, it might inspire them to look at their lives differently. It also was for their families, as well, to understand someone who is going through a health challenge, because everyone in the family is affected.

I wanted to put out there those things that nobody talks about. Everybody talks about cholesterol. Everybody talks about cigarettes and blood pressure, but nobody talks about broken-heart syndrome. Nobody really talks about the phase of physical impact, stress, and how there are different dimensions to healing that we don't necessarily understand in Western medicine, like healing touch, for example.

IMCJ: You mentioned in your book that the heart is, as opposed to the brain, a mental, emotional, intelligent, and spiritual organ in addition to the way the brain is. Could you describe that please?

Dr Guarneri: People have thought about the heart as just a pump forever, right? It just pumps blood. Then, all of a sudden, we come to realize that the heart is also an endocrine organ. The heart produces hormones. Now, the latest research shows that the heart has nervous tissue in it, just like the brain does. We now have this understanding that the heart is not just a pump on the physical level; it's much more. And then you look at research like HeartMath research, where research has demonstrated that the heart is frequently the organ that responds first to something emotional—that it's not the brain.

They have studied the heart and the brain simultaneously and they have shown that the heart and the brain are communicating constantly, which we know they do through the vagus nerve and other nerves, but that the first response frequently happens in the heart. They've even demonstrated that intuition begins in the heart, that you can see changes in heart-rate variability when people are intuitive about something—when they get into what we call an *intuitive hit*.

They also demonstrated that people who have panic attacks very frequently have an arrhythmia of the heart before the panic attack, meaning that the heart—the arrhythmia—is sending signals to the brain that something is not right, which then produces the panic attack. Then there is Paul Pearsall's work. Pearsall wrote the book called *The Heart's Code* where he talks about the heart having memory—where people who have received a heart transplant actually have memories belonging to the donors that they received the heart transplant from.

IMCJ: We all know the expressions, “I know it by heart” or “I could feel it in my heart” and you mentioned broken-heart syndrome. Could you describe broken-heart syndrome in medical terms?

Dr Guarneri: In cardiology, we now have a syndrome, called broken-heart syndrome, which is the heart, itself, becoming extremely weakened after someone receives bad news—shocking news, frightening news—so weakened that people appear in the emergency room and it looks like they need a heart transplant. Fortunately, a majority of the people recover.

No one knows the exact mechanism, but it is most likely the impact of adrenaline literally shocking the heart muscle—where the heart muscle goes into a weakened state. Finally medicine has recognized this as being real. For years people have known couples, for example, who are very close and elderly; one dies and within 6 months there is a greater than four-times higher chance of the other one dying. These observations have been seen for years and yet only now do we have medicine finally recognizing broken-heart syndrome. We know the impact of stress on the heart.

Anger can cause you to have a heart attack. Stress raises your cholesterol, raises your blood pressure, stiffens your blood vessels, causes diabetes, and so on. We are really starting to have an understanding of the mind-body connection and have more science behind it.

IMCJ: What effect does emotion such as anger have on cardiovascular health? It must be even more detrimental?

Dr Guarneri: Anger has been shown to increase the risk of a heart attack 230%—a single anger outburst. We know that anger causes platelets to become sticky, coronaries to constrict, and blood pressure to go up. It precipitates arrhythmia. It is probably the most lethal emotion to the heart.

IMCJ: How do you define *psychoneuroimmunology*, which you talk about in *The Heart Speaks*, and how do you test for problems in this complex realm?

Dr Guarneri: There is a whole field of medicine called *psychoneuroimmunology*, so if you think about it: *psycho*—meaning where are you at emotionally and mentally, what's going on, what are you thinking about; *neuro*—what kind of hormones are you producing; and *immunology*—how are you affecting your immune system. So, for example, we know that people under stress have suppression. Chronic stress leads to inability to heal wounds and affects the immune system. Kiecolt-Glaser has done a lot of research in this area, showing that, for example, caregivers take longer to heal simple wounds. Caregivers may not even mount a response to the immune vaccine for influenza.

We also know from Elizabeth Blackburn's work—she is the woman who received the Nobel Prize for her studies of telomerase activity—that people who are under perceived stress—mothers with chronically ill children for example—have a biological age that is about 10 years older

than their physical age. She has demonstrated for the first time—with hardcore evidence—that stress ages you. We all know that, but we now have the science to back it up.

IMCJ: Does it help with treatment to have this new field burgeoning?

Dr Guarneri: Yes, because we also have treatments that really impact this. For example, going back to Elizabeth Blackburn's work in meditation—particularly mindfulness meditation—she showed that meditation can enhance telomerase activity. Transcendental meditation has shown that it helps people reduce their blood pressure, improve insulin resistance, and decrease addictive behaviors like alcohol and cigarette use. We know these things work; we just haven't always had a mechanism in science to study them.

In Dean Ornish's research on prostate cancer, he was able to show that teaching people a vegetarian diet, yoga and meditation, and group support turned off 100 cancer-promoting genes. These links between the epigenome, which is driven by how you live your life, what you eat, who you eat with, and what environment you are in, is actually more important than your genetic makeup. It's how you live your life that turns your genes on and turns your genes off, and that goes for the psychoneuroimmunology stuff as well.

We know that if we are under a lot of stress and we are putting out a lot of cortisol, we are going to see accelerated aging, we are going to see osteoporosis, decreased muscle mass, and our skin turgor will suffer. These are all the elements of aging and this all comes from the stress hormones. Science is really starting to get a handle on this.

IMCJ: Have you found that the stress hormones seem to beg bad behavior, which then makes health worse for the heart?

Dr Guarneri: When patients are under stress they tend to have more addictions. People smoke, they drink, they eat—they do all sorts of things and they say, "Well I did it because I was stressed out."

The path is to get people to find inner peace, and that's why I think meditation is so effective. People become calm, they have inner peace, they feel better, and they are less likely to indulge in addictive behaviors.

IMCJ: What are some things that you've learned about the heart that have surprised you?

Dr Guarneri: When I first was trained I really did think of the heart as a mechanical pump. I thought that the coronary arteries were either blocked or not blocked. I never really thought about the heart in its entirety and its beautiful complexity—that it really is the feet of the soul and that it really is the organ of emotion—like you said, "heartfelt,"

"I feel with my heart," "my heart is broken."

All these clichés that we use—I never really thought of them as being imbedded in science and being equally important, if not more important, than the things I was taught in medical school like blood pressure and cholesterol. Yes those are important, too, but the power of connection, social isolation, stress, and being in a community—all of those things were never something that I factored in when I was thinking about preventing or treating cardiovascular disease.

IMCJ: You recently held a science and clinical application of integrative holistic medicine conference. What were some highlights of that conference?

Dr Guarneri: We had 501 participants—physicians, nurses, nurse practitioners—who are looking to transform their practices to a more holistic integrative model. We had a lot of discussion about natural approaches, for example, to diabetes and hypertension, lectures on functional medicine, ways to help people who are depressed, handling mental health from a natural-medicine approach, and so on. I think the important take-home message is that health is more than just the absence of disease. Of course, we all know that, but it's always important to teach that we are more than our genes.

Our genes are just the tip of the iceberg. How we live our lives—our epigenetics, which is our lifestyle and our environment—really accounts for 70% to 90% of disease that we see. We reviewed the data 2004 data from INTERHEART again to remind us that 90% of first heart attacks are absolutely preventable through lifestyle change—things like exercise, obesity, how we respond to stress and tension, eating more fruits and vegetables, getting rid of cigarettes. These are all things that are totally doable are really powerful medicine.

IMCJ: Could you tell us about the study your clinic conducted on Marines experiencing posttraumatic stress disorder (PTSD) whose symptoms were helped by healing touch and guiding imagery?

Dr Guarneri: That was a protocol that Rauni and I put together for the Camp Pendleton Marine base. We were approached to determine whether there was anything that we could do from an integrative medicine perspective to work with and help soldiers who had PTSD.

We had been doing healing touch and guided imagery on our cardiac patients who were preparing for surgery for many years, and we knew from our pilot data that those people who had healing touch and were given guided imagery tapes had much less anxiety and they had much less pain. So we thought, "Can we put together a protocol that would work for posttraumatic stress disorder?" We went up to Camp Pendleton and set up a study there in collaboration with the military. We randomized 123 peo-

ple, about half to the treatment group and half to a control group.

Over 50% of the soldiers were already on prescription medication. One of the reasons we were asked to lend something that might potentially help was because it is now recognized that, for a lot of the soldiers, prescription medication is not the answer and it's not working. Those people who got healing touch and guided imagery had a statistically significant reduction in their PTSD checklist (PCL) score, which is a military PTSD questionnaire. They had a significant reduction in their score, they had a significant reduction in their depression, and they had a significant reduction in their cynicism. This really turned out to be powerful medicine. We knew it would be good, but these results were extremely strong.

IMCJ: Were these results met with a supportive reception?

Dr Guarneri: Yes, write-ups were done everywhere, from CNN to the *Huffington Post* to *US World Report*. It was published in *Military Medicine*. It did get a lot of press.

IMCJ: Has your research taken you in any new directions recently?

Dr Guarneri: We just completed the NIH chelation protocol and the results of that are just coming out as of last week. I think more research needs to be done in this arena,

but this was an NIH study looking at chelation in people with atherosclerosis and vascular disease. It showed a small potential benefit in those people receiving chelation. I think more research needs to happen there. We are also going to pursue our research efforts in healing touch and we would like to pursue other areas such as meditation, so we will just keep doing the work.

We are also planning on studying new models of care, different ways for physicians to run their practice that are beyond just the one-to-one appointments. The use of behavioral health coaching is something we'll be studying, hopefully, come January [2013]. Group visits are something else we're looking to start and study. We're very interested in how we can change the delivery of care, make it more holistic, make it more patient-empowering, and give patients the information that they need. That's what the future holds for us right now.

IMCJ: Does the heart still fascinate you after all the years you've studied it?

Dr Guarneri: Absolutely. I am heading to a conference in Saudi Arabia called "King of Organs" [November 2012]. The heart is truly the king of organs as far as I'm concerned, and I'm fascinated by it. I am more fascinated by it now because a whole new world—a whole new dimension—has opened up that is totally different from the way I was taught about the heart in the beginning.