



# Fiona Wood Public Lecture Series

## Transcript for 'Have a heart for your heart' Presented by Dr Nikki Stamp

Hello. I am sorry, I've already drunk all the water; someone told me it was good for you. Right, who works here? Who has been a patient here? Okay welcome, hello, hello. Nice to be on the other side, people who were patients, yes? Much better than being in hospital.

Michelle thank you for that lovely introduction, I didn't realise I had a publicist; it was very kind and I hope I will live up to that wonderful introduction, and I just want to add my thank you for everyone coming out tonight and I hope that by the end of the evening we will all learn something special about our hearts. I think the fact that the heart is special really cements why I do what I do.

Does anyone know who this is? Very good audience, yes Victor Chang. So Victor Chang has a special place in my heart – there will be plenty of heart related puns, don't worry – Victor Chang has a special place in my heart because he is kind of why I do what I do now. I was a very precocious 8-year-old and I used to see Victor on the TV and he was working on making a durable mechanical heart, one that would eventually supersede the need for heart transplants, and as an 8-year-old I thought that was great. I would see him all the time on the news and I was fixed to the television screen; there was something about what he was doing that really connected with me.

So when I was 8 years old, we were asked to write in our diaries at school what we were going to be when we grew up, and there were ballerinas and policemen and teachers, and I had written: "When I grow up I want to be a heart surgeon and finish the work of Victor Chang. So it was a long time ago.

At that same time, I was just fascinated with the human body. I couldn't get enough of how we work and I would read all of these books on the eye, on the muscles, I would clear out the library and read them cover to cover. I knew the St John's First Aid Manual like the back of my hand, and I was ready and may have secretly hoped that something would happen so that I could spring into action and save the day. It never did, touch wood, but I just couldn't get enough of how we were put together, I thought we were just fascinating pieces of machinery.

I read so much about the human body that my primary school librarian called my mum to the school and said, "Nikki is not reading age appropriate books, can you sort this out?", and my mum, who can be a little bit of a firecracker if she wants to, basically said, "Tough, she's reading, leave her alone".

So I continued to read and I continued to make birthday and Christmas presents very easy, I would get my doctor's kits and all sorts of other manner of things and I was well on the pathway to becoming the next Victor Chang perhaps. And I grew up in a family where that was okay. I have a younger brother, my dad's an engineer, my mum was a flight attendant and they brought us up both, both of us regardless of gender, to understand that we could do what we want as long as we put in the hard work and enjoyed and loved what we did. So aside from their questionable choices in eyewear (laughter) and jumpers (more laughter), which ironically are both now fashionable again, they instilled in me this real sense of hard work and it's something that I've carried with me ever since; I'm very grateful for those lessons.

And then high school came and I pretty waylaid during high school because I was a teenager and that's what teenagers do. And what I was going to do was study musical theatre but as I said my dad's an engineer so he's a sensible bloke and he said to me, "You can study musical theatre but you have to get a real degree first", so I was actually going to be an accountant. I had kind of forgotten about this dream of finishing Victor Chang's work, and I was actually enrolled in accounting at UWA and then at the last minute I thought, "No, this is not right, I can't do this, it's not for me." And I set about trying to work out exactly what I did want to do with my life after Year 12, and I had the kitchen table filled with university brochures and I kept looking at them going, "I didn't study hard enough, I'm not smart enough, I didn't do the right subjects or the subjects I did do I wasn't good at". My Year 10 maths teacher told my parents that because I was no good at maths I would never be a doctor or a lawyer (laughter). I've got my high school reunion coming up shortly (laughter) so I will be sure to pass that along!

So I wasn't that interested in academia and it got to this point where I thought I'd blown it, I thought I'd really made mistakes. And then my dad took away all of those brochures and he said to me, "If you could do anything you want in the world regardless of marks, regardless of subjects, what would you do?" And I immediately said without thinking that I would be a doctor. And I was really upset because I thought I had ruined my life, but I was also determined and I had that hard work instinct kick back in and so I set about working out how I was going to get into medicine.

So I studied science for a year at UWA. I applied as a non-school-leaver and I got accepted into medicine the year later, and in my intern year I got accepted to surgical training, and after that I did my surgical training at Royal Perth Hospital predominantly and in Sydney and I loved it. It was always what I'd wanted to; I had just sort of found my niche. And at the end of my training, my parents were vain enough to leave their glasses at home (laughter) and I'd achieved what I set out to do. And I love, I love what I do.

So my career has taken me around the country. I ended up working at St Vincent's Hospital where Victor Chang worked which was a sort of poetic career path for me. I've trained at some of the best hospitals in this country in transplantation, in paediatric cardiac surgery, in lung cancer surgery and I've met the most amazing people along the way – the patients whose stories have really kept me going and if I'm honest are a huge driver in what got me into this career in the first place. And I'm incredibly biased, but I work for the best team in the hospital and particularly in this hospital. We are so lucky to have the people that we have working under this roof.

My career has allowed me, as you've heard, to have some extracurricular activities and they all seem to be a bit mishmash and away from what I do in my daily work, but they are really not because my training as a surgeon has afforded me the opportunities to do some utterly remarkable things with my career. I few years ago I was lucky enough to travel with Open Heart International, which is an initiative of the Sydney Adventist Hospital, to do outreach work in Fiji. And we were there for a week and we worked so hard and we operated on 36 Fijians, children and adults, who would not have otherwise had access to heart surgery. And it was probably one of the most rewarding experiences of my career, apart from the fact that you go away and you work with an amazing team of people, you get to meet the locals who are so grateful for what you're doing and are so community minded.

So in Fiji they cannot afford to have blood tests for cholesterol or HIV because it costs money, so when we turn up to do heart surgery as part of the community spirit they donate blood, which is fantastic, but the blood donation service will test their blood for free for diabetes and cholesterol and HIV and all these things that we take for granted – that we can go to the doctor and get bulk-billed immediately. It was one of the best things I ever, ever did!

It has allowed me to write a book and yes, that seems a world away from an operating theatre. At least I can justify Fiji, that seems like my day job – this was a world away and earlier this year my first book, "Can you die of a broken heart?" was released. And the title came about because when I go out socially and I meet people who find out what I do for a living, one of the most common questions I get asked is, "Can you die of a broken heart?"

The second most common question I get asked is that, "If you have a heart transplant do you take on the characteristics of your donor?" which is a terrible book title (laughter) so we went with "Can you die of a broken heart?" and it is for everybody to read. You know I think people are bright and if we show them how amazing our bodies are, how much I think we're amazing, and share some of that insight and hopefully that love of our body and how they work, that it will motivate people to want to take care of it, because there is nothing as good as the original.

And then I've also gone a whole step further in that, and I've been able to host two episodes of ABC's flagship science programme, Catalyst. And the first one I'm particularly proud of because we spend a lot of time here at Fiona Stanley meeting some of our patients, meeting some of our staff and I think it did an amazing job of showcasing what a world class service we have here at this hospital. And in addition to that, we travelled around the world to meet some incredible scientists who are doing amazing things, and it was a real privilege to be able to meet them.

And the second one was an incredible episode; it was a little bit off the beaten path for me, we talked about bionics and how we are replacing body parts, and again there are some amazing human beings out there who are living with disabilities, who are discovering new and improved ways to help those kinds of people who perhaps have been born without arms or other body parts to achieve some amazing things. So it's been a bit of a whirlwind. And one of the probably more rewarding things I get to do is a part of being someone who has a voice, is to try and inspire a group of people coming through to perhaps do what I do, or something similar, and I've been a part of a campaign called "I look like a surgeon," which aimed to shatter gender stereotypes when it comes to women in surgery. And one of the most rewarding things about this is to see something like this where perhaps this little girl might grow up and maybe one day stand up in front of you and say, "When I was 8 I wanted to be a surgeon because I saw Nikki Stamp on TV". And I would love that, I think it would be wonderful to inspire the next generation of surgeons.

But all these extracurricular activities, they take up time, they take up energy, they are important though and they are important to me because of this – it is because if we think of it, at least 80 per cent of heart disease and strokes, and they are kind of interrelated, are preventable through lifestyle changes. And I like to throw a bit of a challenge out there, I want someone to put me out of a job; look after each other, look after yourselves and put me out of a job. But then the sad truth is that at the moment I'm pretty safe for a little while. So what's going on?

So I'm going to tell you tonight a little bit about heart disease and teach you a little bit about the heart and teach you about how we get sick. I'm going to teach you a very brief part about how it gets better, but I want to talk to you mainly about this and what we can do to make this number much more of a reality.

So you can probably tell that I really love the heart, I think it's fascinating and I think it's equal parts beautiful, equal parts a fascinating piece of machinery. I think it's delicate but strong at the same time. It beats 100,000 times a day. It is an amazing muscle. If I asked you to do a 100,000 biceps curls, you couldn't do it, but your heart, it is the first organ to form before we're born at 4 weeks, and it starts beating then and it never stops until the day that you die. It is a remarkable piece of machinery.

So... I love this picture – I think it's cute (laughter). But I'm going to give you a very brief primer about the heart; there will not be a test (laughter) but I hope you enjoy it. So like I said it starts forming before we are even born, before 4 weeks, it starts out as a tube and when all the genes that we are created with tell this tube to fold around on itself, and at 4 weeks you've got a heart that has four chambers. There are two sides to the heart; four chambers – the left atrium, the left ventricle, a right atrium and a right ventricle. And they each work together but they have very, very different jobs.

So the left ventricle is the main workhorse of the heart. It receives blood from the lungs, it goes to the left atrium and then it pumps it out into the aorta, the main blood vessel out of the heart to every organ in your body, at a speed of a few metres a second, very fast and very powerful. And then once the blood travels around your body and gives your tissues life and takes away the waste, it comes back to the right side of the heart and then it goes around the lungs, it gives the carbon dioxide which we breathe out, the oxygen comes in, it picks up glucose, a whole bunch of other things, and then it does it again 100,000 times a day. It is a perfect, perfect machine.

And the amazing thing about this machine is that all it needs to work is blood. Now when's the last time you thought about your heart – just, “Ooh, I'd better check that's still going,” - it just goes! It just does it itself, it's amazing because if you give the heart blood it will just, it will just beat, and that's some technology that we've been able to harness. This video is working very well. So this is the machinery that we're lucky enough to have had here in WA where if you give a heart blood on this machine it will just beat by itself (just to say it's a pig heart, it's not a human) but it is the most remarkable piece of machinery in our bodies. I'm obviously very biased.

Now, when we talk about heart disease, and this is why I'm here, this is why I want to talk to you tonight, we talk about heart disease as if we sort of know what it is and we sort of probably think it's mainly related to heart attacks and that's true, but heart disease is this huge broad umbrella that encompasses a lot of illnesses. We're talking about the electrical problems of the heart, we're talking about children who are born with heart disease, and children who are born with heart disease is the most common birth defect we have and it can be quite serious.

We've got things like heart failure; we've got diseases of the main blood vessels out of the heart; we've got diseases of the valves, we've got strokes; there are all interrelated. But when we talk about heart disease in terms of preventing it, the thing that we are really talking about is heart attacks or angina, and I will explain what that is. The rest of it is interrelated, but this is what I really want to talk to you about today.

Now, heart disease forms when we're quite young actually, this process starts when we're teenagers, which is why it's really important to get teenagers and young people to look after themselves. So depending on some of our genetics or other medical problems, if we exercise, what we eat and so on and so forth, our body lays down these plaques inside our arteries and that's called atherosclerosis. It's a big word but it basically means a fatty plaque, and they have cholesterol and cells and other kinds of debris in them, and what happens is they build up over time and they can build up in any of our arteries, but when you have heart disease they build up in the arteries that supply blood to the heart, they are called coronary arteries.

And if we remember that our hearts are pretty special, pretty special muscles, they need their own special blood supply, so that's what they've got. And when you get these plaques inside your heart arteries and then they block off, they get a clot in them, that's a heart attack. So that's when a part of the heart muscle is either at risk of dying or actually dies, so that's what we're talking about, and this is the type of heart disease that is largely preventable.

Now, there's a lot of Australians who have this problem. Heart disease is the leading cause of death around the world and that's true in Australia as well. So around 4.2 million Australians have some form of cardiovascular or heart related disease. And every 28 minutes, one Australian will die of the disease and every 10 minutes someone will have a heart attack. And a huge number of people are living with this illness every day, and it limits what they can do in their lives. It limits their social interactions, it limits being able to get around the house, whether they can travel, all kinds of things. So it's a really debilitating and potentially deadly disease.

For women, and this is a big interest of mine, for women's heart disease a lot of women don't know, a lot of people don't know that you are three times as likely to die of a heart attack than you are of breast cancer. So heart disease in women is very, very under-recognised, both in women themselves in the community but also by doctors and nurses; we are only just learning about this very important difference, and trying to raise awareness around women's heart disease is something that I'm incredibly passionate about because awareness is one of those things that we know will go on to save lives.

Now, I did say there wasn't going to be an exam, but I do have a little quiz. So who can tell me some of the symptoms of a heart attack. Pain? Yep. Shortness of breath. Funny feelings in your hands. Anything else? Sorry? Heart burn, yeah good one. Shoulder pain, good one. We have some good ones here. Nausea, yes. Alright so we got some good ones, that's pretty good guys. So this is what we tend to think of. Chest pain is sort of the predominant thing that we think of and we see it on the TV when you know Jack Nicholson clutches his chest and falls over. That's sort of the predominant thing that we think of, that someone's getting pain right in the centre of their chest. But there's a whole bunch of other things that can happen with heart disease, such as pain that's in your chest and it radiates up to your jaw or down your arm or into your back. You can get shortness of breath, nausea and vomiting, feeling really sweaty and dizzy, not being able to do what you're used to do.

Now if I make our stick person a woman, things look quite a bit different. And usually when I start talking about this part, all the women in the room roll their eyes at me because one of the more common symptoms or some of the more common symptoms have nothing to do with pain. They are being tired and fatigued and not being able to do what you're used to do, a bit of back pain, a bit of jaw pain, and less than half of women actually experience chest pain. So when I say that you might be a bit tired if you have heart disease, the women in the room go, "We're always tired". And it's true because these are really vague symptoms right; it's really hard to recognise if you've got a sore back or a sore jaw from something else or whether you're having a heart problem, and these are some of the really important differences between men and women that mean it's actually really challenging for us to work out sometimes if a woman's having a heart attack or even for the woman herself to know that something's wrong and she needs to go to the doctor.

Now as I said heart disease starts forming when we're quite young and there's a whole bunch of things that we know cause heart disease, such as high blood pressure, high cholesterol, having diabetes, what we eat really matters, if we smoke, if we exercise, how old we are, if we're physically active, you know if we're carrying extra weight and where we're carrying that extra weight, you know stress, inflammation, a whole bunch of things. It's a pretty exhaustive list and I'm sure a few of you are now just going through going oh yes 1, 2 yep okay. You know, in Australia 90 per cent of women have at least one risk factor for heart disease, so that's a lot of people who are running around – I have high blood pressure – running around with risks for heart disease. And some of these things we can't do anything about, you know we're all getting older, we're getting older just standing here or sitting here, you know we're born with the genes that we're born with, we can't take them out and change them for better ones.

But there are some things that we do have a little bit of control over: High blood pressure, diabetes, some of these things you know we are predisposed to get, some of these things we can do a little bit about, high cholesterol - we can change some of these factors and some of these factors we can definitely change. We can change what we eat, we can change whether we smoke or not, we can change whether or not we let people smoke, we can give them plain packaging and horrible pictures on their cigarette packets, we can manage our stress, we can all be active. So there are things that we can change and there are things that we can't change. And regardless of whether you are predisposed to have these things or not have these things; even if you have the dodgy genes (I've got the dodgy genes), even if you have a stressful lifestyle at work for example, by trying to get in some of these healthy lifestyle factors, you actually reduce your risk of having a heart attack by half.

And when we looked at people who had the worst genetics in the world for heart disease, even when those people exercised and ate well, they still halved their risk. So it's never too late, it's never something that you can't fight against. And if you are unlucky enough to get heart disease - like I said to you, we're lucky, we've got world class medical care in this country, in this building, and that's something we've actually gotten very good at over the years. So since the 1960s, we've seen this plummet in the rates of people dying from heart attacks but recently it's levelled off and there's been a whole bunch of things that have changed in that time, so it's really hard to tease out what happened. At that time we got coronary care units, heart surgery was born, the first heart transplant was done in 1957 in South Africa by Christiaan Barnard. You know that's sort of when heart surgery was really coming to the forefront. We had new medicines, we had lifestyle changes, the surgeon general's report was released in the 1960s to tell people that smoking is bad.

All of these things contributed to the fact that we think we're pretty good at doing this, and we are! We have aspirin and other medications that have dramatically changed how people survive a heart attack and how they live afterwards. We have cardiac cath labs which are able to put stents inside coronary arteries that are only a few millimetres wide to open up blockages and save lives. We have heart surgery which every year gets more and more exact at helping people. We're really, really good at it, but there is nothing that I can do or anyone else can do that is as good as prevention. Because as lovely as it is to meet you all tonight, you don't want to meet me professionally, or any of my colleagues. There is nothing better than the original.

So we know all this, we know that prevention is better than cure, right? We know that we can prevent heart disease, so why does it feel like we are trying to do maths to slingshot a spaceship around the moon when it comes to preventing heart disease? It's really, really hard. It's incredibly complicated, and despite the fact that we know all this we're not doing it. Three per cent, just 3 per

cent of Americans live a healthy lifestyle. Now don't go gloating, we're not much better (laughter). 97 per cent of Americans know exercise is good for them, less than half of them do an appropriate amount. So there's a real disconnect, there's a real disconnect between what we know we should do and what we are actually doing.

Now, here's a problem that often gets told that you can fix yourself and that's obesity. And obesity is you know one of those health problems that people know is associated with heart disease and is often offered up as a very simplistic approach to fix it – you just have to eat less and exercise more. Right, really simple, should be dead easy, everyone should do it but nobody can. This is research from the UK and it does look a little bit like a 4-year-old took a crayon to a piece of paper and drew out this map which shows all the different causes, but just one of the problems related to heart disease, one of the problems being obesity, and there are so many different things that are involved here. So we've got things like our food production – what's in our food? You know, we're producing huge amounts of processed, high energy, low nutritional value food; we're advertising it to people, so at the same time we're telling you to eat well, we're also giving you a whole bunch of ads asking you to get stuck into beer or a Mars bar or whatever it is, whatever your treat of choice is. So it's a really confusing message.

We're asking people to exercise yet we don't provide people with a safe environment all the time to exercise in. We don't provide them with childcare or money or education, all these sorts of things that really play into how able or unable you are to live a healthy lifestyle. We have our biology. Some of us are just set to be a bit bigger, yet we tell everybody that they need to be a lot thinner because it's good for their health. So there's a lot of mixed messages. And what I'm trying to illustrate for you here is that our health choices don't happen in a vacuum. They happen in an environment which is confusing, which is challenging for some people, and it makes it really really hard to live a healthy lifestyle, and that's our problem – that we all know what's good for us but we just can't quite make that connect and actually do it.

So despite the fact that we're all told it's all about us individually, it's about our personal responsibility, our personal choices, and while that's true, these personal choices happen in the context of our own psychology, of the community psychology, of our financial constraints, our social circumstances; you know our social circumstances might even be we worked too late tonight, we couldn't get out. It happens in the context of having a good health care system that is able to provide preventative care and complementary care to all the fancy medications and operations that we have. It's about how our government legislates to ensure that we have access to parks and public transport and all these sorts of things that actually help us live a healthy lifestyle.

Now I'm not here to ask you to revolt against the government. It's important that we think about these sorts of policy, broad policy changes but I want to help you sort of cut through some of the mixed messages and confusing messages and think about what we can do, even in the confusing complex societies that we live in, what we can do to make our hearts much, much healthier. So one of the first things that we're often told is that we are what we eat and an apple a day keeps the doctor away, and all of these things are very true, what we eat is so vital to our health, but also at the same time food's tasty! Particularly bad food, it tastes really good! You know it's social and it's the way that we celebrate and interact with other people, so it can be very hard to eat a healthy diet; not to mention there is an enormous amount of confusing information around about what we eat.

A lot of the research done regarding nutrition suggests that the dietary guidelines that are provided by most countries are roughly about right; that's having a diet that's rich in fruit and vegetables, of wholegrains, low in processed foods and sugars and salts, high in things like fish and good oils that you get from avocados and nuts and olive oil, so a Mediterranean type diet is what we should eat most of the time. If you feel the need for chocolate by all means and as Michelle already alluded to, it's probably okay, not in massive amounts, but it's probably okay to have a bit for your heart and for your sanity.

We talk about exercise and again this is a really confusing thing; we are supposed to be running or cross fitting or yoga or no one seems to know what's good for us in general; it's another place where we get really confusing messages, and also do we need to do it every day? How much do we need to do it by? Even small amounts of exercise can dramatically improve your health, independent of whether you lose weight, whether you get fitter, it doesn't matter as long as you're out doing something. There has been research to show that even if you run slowly for five minutes a day, you improve your chances of surviving a heart attack – that's a huge, huge amount for such a small effort.

So my rule of thumb is that when it comes to exercise, some is better than none and more is better than some; that's pretty easy to follow. The World Health Organisation recommends we do about 30 minutes a day five times a week – that's moderate intensity, that's where you can walk and still have a conversation with someone. So you don't have to do anything ridiculously strenuous. You need to do something that you enjoy, that you're going to keep up with, that's social, that is accessible, so it's not going to cost you huge amounts of time or huge amounts of money. It needs to be something that you feel like you're good at. I hate rock climbing – there is no point in me going rock climbing for my exercise because I'll feel silly and I won't do it anymore. You've got to find something that you can keep up doing.

Smoking is probably one of my biggest bugbears because it's just so bad for us and if cigarettes were a drug, a medicine prescribed by doctors and they were introduced on the market today, they would never be allowed to be sold. But they were, and even though smoking is pretty socially unacceptable and we legislate against it, and less than 20 per cent of people smoke nowadays, it's quite small, we still have a habit that is generally pretty hard to kick. But if you were to do only one thing for your health or get people around you to do just one thing for your health, quitting smoking would absolutely be number one. After even a year of smoking cessation/of quitting, your risk of having a heart attack is half of that of someone who still smokes – that's a big reduction – and some medicines that we use for various different diseases don't provide you with that much benefit.

This is one that most people can get into and that's sleep. Sleep's great – sleep's great for your heart! If you are lacking in sleep, have poor quality sleep, it does create quite a stressful situation on your heart. It also means that you're less likely to exercise and eat well. So by getting an appropriate amount of sleep, and there's no hard and fast number – it's what's right for you so that you are well rested – you have a lot less stress on your heart and you're much more likely to take better care of yourself. And of course a really important thing to do is to talk to each other; I want you to leave here tonight, and particularly for the women in your life, this is my plug for women's heart disease, tell three women that you know that they need to look after their hearts.

But the other important person to talk to is of course your doctor, and I would encourage everybody to ensure that you've had a heart health check. And we're pretty good at checking other things; we will go and get all the various tests that we are supposed to throughout our life, but one of things that often gets neglected is having your heart checked and you can ask your GP to do simple things like check your blood pressure, check your cholesterol and check your glucose. Because it's hard to do something about it if we don't know that it's there.

So I hope everyone's learnt something tonight. I hope you remember some simple take home messages and if you are feeling so inclined Heart Foundation or any number of other bodies do a great job in supporting heart related research, so we can continue to do an excellent job and I would encourage you all to check out their resources but also if the need arises and you feel like you have to donate, please think about donating to the Heart Foundation.

Thank you all for your attention tonight and I hope to see you all at the next one. Thank you!

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**South Metropolitan Health Service**, Locked Bag 100 Palmyra DC WA 6961

Telephone (08) 6152 2222

[www.southmetropolitan.health.wa.gov.au](http://www.southmetropolitan.health.wa.gov.au)

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