

## Interview with Dr Tong Ming Chuan

Dr Tong Ming Chuan is currently a Consultant Cardiothoracic and Vascular Surgeon at Mount Elizabeth Medical Centre, and is also a Visiting Consultant at National Heart Centre.

Dr Tong earned his MBBS from the University of Singapore in 1973. Following his graduation, he went through many subspecialties in surgery, before becoming a registrar at the Cardiothoracic Department at Tan Tock Seng Hospital (TTSH). He later moved to Singapore General Hospital (SGH), where he and his colleagues pioneered a number of cardiac surgery procedures in Singapore. He went on to lead a team at SGH to perform the first heart transplant operation in Singapore in 1990, and the first lung transplant in 2000.

Dr Tong took time off from his busy schedule to participate in an interview with *SMA News*, and patiently answered our questions about his medical career and contributions to Cardiothoracic Medicine in Singapore.



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# Interview with Dr Tong Ming Chuan

**SMA:** We know that you were active in hostel life and student unions as a medical student. Can you tell us more about your career following your graduation from the University of Singapore? Were you always inclined towards Cardiothoracic Surgery, and how would you describe your training towards being a cardiothoracic surgeon?

**Dr Tong Ming Chuan – TMC:** My entrance into Cardiothoracic Surgery really came by chance. In the early 70s, postings were not what you wanted but really what you could get. I started as a houseman in the medical unit in TTSH, and was posted to Surgical A Unit in the Department of Surgery at SGH after six months. At that time, there were only three surgical departments in the whole of Singapore, so we were really busy! On top of it, we were always short of junior

surgery. Although I did a number of cases as a houseman, it was certainly not that sort of work!

Fortunately, Prof Abu Rauff was a senior lecturer there. He was very helpful and took me on my first case of hernia. That was my test as a surgeon: I did a few cases and when I saw good results, I was quite happy to be there and gradually came to like surgery. Despite the workload, morale was high and we never complained – we were young, we never got tired and just carried on.

After my first year in Surgery A, I was posted to the surgical department at Toa Payoh Hospital, which has now been demolished. Prof Raj Nambiar was head of department then. I already had one year of general surgery experience, and continued to be exposed to different surgeons. I also applied to become a

Every one of my mentors inspired me in one way or another. For example, Prof Ong Siew Chey was a disciplinarian and the strict, no-nonsense type. He approached clinical problems scientifically, and was also very methodical in his surgery. He also did things step-by-step, so by observing and assisting him, I learnt a lot. And Prof Abu Rauff was a very skilful surgeon and a great teacher. He was able to conceptualise the cases of disease in very clear terms and explain them to the trainees. So in that regard I learnt a lot from him. Prof Raj Nambiar was another disciplinarian. Whenever he did ward rounds, he would ask very sharp and penetrating questions, which really kept you on your toes. As for Dr NC Tan, I think he was a very dedicated person. As a pioneer, he was very patient, and had the perseverance to withstand all sorts of hardships at that time. I find him really inspiring in that aspect.

staff. That gave me another advantage, as I gained lots of hands-on experience. I worked very hard and could end up going on call every other day, or once in three days. The chief at that time was Prof Ong Siew Chey. After my first six months as a houseman, I was not posted out, but continued as a medical officer in the same department. On my first day as a medical officer, I received a list of about 15 cases of

trainee surgeon and upon acceptance, I started to prepare for my primary exam. Then, I was posted to TTSH's Cardiothoracic Department. At that time, the pioneer in Cardiothoracic Surgery in Singapore was Dr Tan Ngoh Chuan (NC Tan). He already had four senior trainees, some of them were senior registrars and one was a consultant. After six months, I quite liked Cardiothoracic Surgery mainly because I found



it challenging, and if you did it well, the results were very rewarding.

Cardiothoracic Surgery was still new then. Many things, especially the methods of cardiopulmonary bypass and myocardial preservation, were still at the beginning stage, so their results weren't that great. But most of the patients who underwent successful operations had good post-op progress. I started to read about the history of Cardiothoracic and Paediatric Surgery, and became inspired and fascinated by their progress and all the things which could be done. Then, I was informed that all the posts in the Cardiothoracic Department were fully filled, and there was no way they could take in any more surgeon trainees. So I left it as that, and was posted to Orthopaedics for six months, followed by Reconstructive Plastic Surgery for another six. I've gone through most of the subspecialties in surgery,

induction dinner, as I happened to sit beside Dr NC Tan. He asked if I was still interested in Cardiothoracic Surgery as three of his consultants had resigned for private practice, and there were vacancies. I asked to think about it and discussed this with my family, as I knew this would be a great commitment. My wife was very encouraging and she said, "If you really like it, go ahead. It can't be helped; I will support you." So I went for it. When I broke the news to Dr Jimmy Choo, who was the Head of General Surgery B in SGH then, he accepted it gracefully and wished me well. I went over to TTSH as a registrar. At that time, TTSH had only one registrar in the first month, and two registrars in the second. The two registrars lasted for nearly a year. You can imagine how hard we had to work. Later the whole department

the way to improve.

The single experience that affected me most was the night I had to take back a case for re-exploration from a visiting expert. That was the tipping point that made me decide that I had to leave for further training because I was going nowhere. It happened when I was a registrar and I was on duty when a patient developed cardiac tamponade, where the heart was being compressed by blood. I took the patient back, tried to clean up the blood, checked what was wrong and saw there was bleeding from the lower end of the anastomosis. It was way beyond me to fix it, so I called our consultant on call, because the visiting expert had left. After struggling the whole night, the patient did

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which gave me a very broad base of training.

After that I was posted back to General Surgery B in SGH. I must have been born to work, because wherever I went, the place always had too few medical and house officers. For example, in the middle of the posting, I would be borrowed by Surgery A because the university trainees had long exam leaves. Although on paper there were many trainees, but in reality, there were only a few doctors left during exam periods, so I had to go and fill in for the unit. On the positive side, this gave me lots of experience and exposure.

My entry into Cardiothoracic Surgery arose during the night of Academy of Medicine's

moved to the new SGH. The Cardiothoracic Department there had a lot of teething problems in the beginning. In the late 70s and early 80s, the coronary artery bypass had become an accepted treatment for coronary disease, so the demand for this procedure increased, but the department was unable to deliver.

**SMA:** What is one experience that has deeply impacted your life?

**TMC:** At SGH, we tried all sorts of ways to start a programme. There were visiting surgeons who came and did a few cases, but I felt that was not



not make it.

You can imagine the hoo-ha the next day. It woke me up – how could I continue in this way? I felt I was wasting my time and was unable to learn anything more without proper training. With my friends' introductions, I made my own arrangements, and went to Australia with Dr Victor Chang for one year. He was my mentor in coronary surgery and inspired me a lot. He was a very skilful surgeon and had a good personality, so it was really a pleasure to assist and learn from him. He did his first heart transplant in Australia during that time. After

one year I wrote back, saying that I wanted another year to go to Mayo Clinic, as I needed more exposure to become more well rounded. So when they agreed, I went over to America for another year. At Mayo Clinic I attended a one-year programme in advanced Cardiovascular Surgery training. It really consolidated what I had learnt in a more systemic way. I went as a fellow but worked like a resident. I was attached to a surgeon, and was rotated every three months. I was also assigned some clinical research to do. I stayed at the hospital every other day, but because I went there alone, it was okay. At that time, I was only in my early 30s and the two years abroad really improved me.

I came back in '85, determined to bring up the standards of Cardiothoracic Surgery locally, and to boost the confidence of the patients and the other cardiologists. It was very hard work but it paid off. After completing my first hundred and ten cases, I presented my paper to the Singapore-Malaysian Joint Congress. A hundred and ten cases with one fatality was considered very good at that time.

**SMA:** So you did the first heart transplant in Singapore?

**TMC:** After this period, other doctors joined us and we worked closely with cardiologists as a team. We did arrhythmia surgeries, coronary bypass surgeries, valve repair surgeries and corrective surgeries for congenital heart diseases. We felt that it was very important to establish Cardiothoracic Surgery locally. We sent more surgeons overseas for training and I also visited other places. As far as possible we did it on our own with occasional visiting experts from other places to help. In 1988, I started to prepare for heart transplant surgery. We had asked the government to allow us to do heart transplants on our own initiative. Dr Kwa Soon Bee, then the Director of Medical Services, was very supportive. We had made our presentation to the Ministry and Minister of Health a number of times and were repeatedly turned down. Finally, in 1990, I got their approval. That was when the Prime Minister was still Mr Lee Kuan Yew, and he said the government agreed for us to go ahead. My team and I performed the first seven cases of heart transplant in Singapore and our small project finally managed to take off.

**SMA:** Why did they turn you down initially?

**TMC:** There were concerns about costs, high

intensity procedures, resources and so on. I had to ensure we could do it, and that we didn't incur any extra costs from the government, and we found our own donations at the beginning. But fortunately after two years' preparation and practising, the whole team was ready. We had to do routine services as well – you couldn't close everything just for the first heart transplant. But finally we succeeded.

In 1992, I wanted to have more time for myself. I decided to become independent, so I could have my own agenda and terms. So I left and set up my own private practice. After all, there were already so many other surgeons at SGH.

**SMA:** Who took over the position of chief?

**TMC:** Dr KK Ong, and after he left, Dr Chua Yeow Leng, who is still there. During my first few years of private practice, I continued as the chief of the transplant team and led the first

clinical and basic scientific research has been given a more prominent role in the career development of young surgeons. There are now new modalities of imaging which provide surgeons with much better ideas of intercardial structures and functions, allowing them to make early diagnoses. As we already have the natural history of each individual disease and abnormalities, we know what will be the natural history in light before intervention. We dare to intervene earlier, and the long term results we get are even better. As the diseases are found in earlier stages, the surgeons can do less invasive cardiac operations more frequently. Operations can be more properly planned and the surgeries are much more precise than before, and their results are better. For example, in coronary surgery, the usage of the off pump procedure without the cardiopulmonary bypass allows us to obtain better results in certain cases. They make a lot of difference, as cardiopulmonary



Dr Tong surrounded by boisterous children at a school in Yunnan, China

lung transplant in Singapore. The cardiology and cardiac surgery departments joined together and became the National Heart Centre Singapore.

**SMA:** What have been the biggest advances in Cardiothoracic Surgery in the last ten years?

**TMC:** As you know, we have made good progress in Cardiothoracic Surgery in Singapore in the past 25 years. Most of my younger colleagues are continuing to introduce new innovations and techniques into clinical practices after their stints abroad and all of us have also been keeping abreast of the new advances. More importantly,

bypasses generate a lot of inflammation in the body and also affect the central nervous system. In valvular surgery, more refined methods of repair and better long term results enable cardiac surgeons to perform more conservative valvular operations. Endovascular procedures for aortic diseases were also well established in the last ten years. All these new innovations have really benefited many patients, and they also enabled us to operate on very old patients with calcified aortas. These are all the progresses with minimal complications. Of course, from time to time, there are very sick patients whom you cannot save. But on the whole, the results of Cardiothoracic Surgery have improved a lot.



**SMA:** Who were your inspirations in Medicine, and in particular, Cardiothoracic Surgery?

**TMC:** Well, throughout my training period, every one of my mentors inspired me in one way or another. For example, Prof Ong Siew Chey was a disciplinarian and the strict, no-nonsense type. He approached clinical problems scientifically, and was also very methodical in his surgery. He also did things step-by-step, so by observing and assisting him, I learnt a lot. And Prof Abu Rauff was a very skilful surgeon and a great teacher. He was able to conceptualise the cases of disease in very clear terms and explain them to the trainees. So in that regard I learnt a lot from him. Prof Raj Nambiar was another disciplinarian. Whenever he did ward rounds, he would ask very sharp and penetrating questions, which really kept you on your toes. As for Dr NC Tan, I think he was a very dedicated person. As a pioneer, he was very patient, and had the perseverance to withstand all sorts of hardships at that time. I find him really inspiring in that aspect.

During my training abroad, besides Dr Victor Chang, the other surgeons whom I found inspiring were Dr Gordon Danielson and Dr Hartzell Schaff. Both are scientist surgeons with very solid scientific knowledge in cardiac medicine and perfectionists in their surgeries.

**SMA:** Is Cardiothoracic Surgery still very popular as a field?

**TMC:** On the whole, there are fewer young people willing to take it up. Maybe because the work is hard, the workload is high, and the quality of life is not that good; there are so many other factors. The other specialties are more lucrative and also allow a better quality of life. But there are still a few who really like it and will continue to do it.

**SMA:** If you were to give advice to a young trainee, what would it be?

**TMC:** A surgeon is basically also a doctor. So he must possess all the qualities which are required of a good doctor, such as compassion, empathy, knowing your patient, sympathy, consideration, and so on. Of course you must also have the ability to operate, and the stamina to stand the pace of work. And I think if you want to be someone great, you must be able to make precise and swift, very on-the-spot important decisions, and not lose your cool easily when you encounter unexpected occurrences during surgery. You must also be

able to generate confidence in your whole team whenever you encounter a very difficult situation intraoperatively. I think that not many surgeons possess those sorts of qualities.

**SMA:** Surgery can be quite unforgiving especially because you can see the outcome of the operation right before your eyes. Do you have any advice for aspiring cardiothoracic surgeons?

**TMC:** My advice to them is to maintain a broader base of training at the beginning. Actually, I do not really agree with those who go in and then immediately specialise. I suppose because nowadays it is a team approach, so there's division of labour and everyone specialises very early. They don't see the point in wasting time in going through broad training. But broad training is really necessary in critical times, when there's no help around. If you have experience and exposure, that makes a difference in your decision-making. You will also have the confidence to do it.

And one's attitude towards one's work is very important. I remember Dr Harry Windsor, Dr Victor Chang's old boss, telling me during my first case at St Vincent's Hospital: "Dr Tong, you will find that many surgeries are repetitive and may find it boring after some time. One way to make it interesting is to do it better than your previous case."

**SMA:** What do you think about the Residency Programme, where one immediately specialises in an area?

**TMC:** There should be a Residency Programme, but it shouldn't be too narrow to start with. Students should undergo a wider base of training and slowly build up experience from there.

**SMA:** What are your thoughts on specialist fee charging in the post-Guideline on Fees era?

**TMC:** Personally it makes no difference to me whether there are guidelines or not. I charge my professional fee quite flexibly, and it depends on the complexity of the case: how demanding

it is, how much time I need to spend with the relatives, and so on. It is a whole package to be considered. As for those who need help, I will always consider them, so there's no problem. You have to give and take, that is the beauty of being your own boss.

On the other hand, in a broader perspective, the general public needs some guidelines so that they have some idea of what a ballpark figure is. But guidelines are just guidelines, and different people have different needs, so we really have to work these out. I don't think the general medical practitioner would be unscrupulous even if there were no guidelines, and charge exorbitant fees. I believe only a minority are like that. If you charge high fees, but are not monopolising anything; if you inform your patients and they still want you, it is fair enough. But you must be transparent.

**SMA:** What advice do you have for young specialists leaving for the private sector now?

**TMC:** The private sector is now a little different from before. The reality is that – and everybody knows this – the costs of overheads and everything are very high. But these are besides the issue. The first things one has to ask are: what do they really want, what are their own personalities and expectations in life, what sort

If you cannot get work satisfaction, you might be very frustrated and your life will be unbearable. The pay in the public sector is very good now, if you perform well. My advice is: know what you want and what to expect, and before you make a decision, talk to some of your friends outside. Now you also have more choices, you can start a private, independent, solo practice, work as an employee in a private institution, or you can join a group practice – there are different ways to deliver so you have to know yourself and find something that suits you. That is very important.

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**SMA:** Nowadays the cost of living is high. The young people say that the costs of housing and cars have gone up, so the tension is always there.

**TMC:** Clinics are so expensive now, how are they going to afford it? If you are not careful, you are going to end up working your whole life just to pay for the mortgage, so is it worth it? Whatever it is, plan carefully, plan first, don't just leave because something made you unhappy. That is rather stupid.

**SMA:** This is good advice. Are you an avid reader, and what are the books you are currently reading?

**TMC:** Yes, I am, in a way. I have read *The Problem of China* by Bertrand Russell, which he wrote in 1911 when he was a fellow in Beijing University. At that time he looked at Chinese problems, many of which are still applicable now. The book was written just after the revolution, but before the Communists. Now I'm interested in particularly the Westerners and their views on China in the last ten years. They wrote for other Westerners who will read these books and understand China through them. For example, I find books written by Peter Hessler interesting.

I am also interested in the Middle East situation and Islamic history, and have looked at quite a number of books about it. I am trying to understand how the situation changed from the 7th century until now. There are also the Mongolians; I read about Genghis Khan and the early Mongols. Recently I read *The Last Crusader*, which is very interesting. At the beginning of the 15th century, Portugal started to influence North Africa and Vasco da Gama conducted explorations. All these can be linked with how Columbus discovered the New World and why it happened, because at that time the Middle East was under Timurlane, and later, the Ottomans, who blocked the trade routes, so they had to come up with new ones.

These books are like that: after you read each one, you link them together, and you get a bigger picture of what happened throughout history. So these are the books I read, which are quite a number. Whenever I have any questions, I will go and look for the answers in books, and sometimes one book will introduce another.

**SMA:** You are known to be a Chinese scholar as well?

**TMC:** No, I'm not a Chinese scholar. I was basically Chinese-educated and since that time I continued to read. I like literature and am very interested in history. In my younger days, I certainly read more about Chinese, East Asia and even Southeast Asian history. I read mainly for my own self-education, and to answer my own questions. For example, with regards to history, I want to know why the world is now like that. For example, why is the Middle East such a messy place?

**SMA:** Have you been travelling widely, and what have been the most interesting places?

**TMC:** I have been travelling quite widely in Asia, America, Europe and Africa and all the places are very interesting in their ways. Recently we went to Northern Africa: Tunisia and Libya, and saw all the old ruins of the Greeks and Romans in Libya.

**SMA:** What other hobbies or leisure do you partake in outside of work?

**TMC:** I learnt sailing before, then I gave up because it was really too tough. I did horseriding, until I fell and injured my shoulder, so I gave it up. I play tennis, but not so often anymore. I played the cello but my fingertips became so calloused that I could not feel the fine sutures during surgery. At the moment, I mainly read, practice *taiji*, swim, go for long walks and enjoy classical music concerts.

**SMA:** Michael DeBakey worked well into his 90s, so do you think you'll do the same?

**TMC:** I don't know! But he is quite an inspiring figure. One of his trainees, also a very famous surgeon in Houston, was previously President of the Association of Cardiac Surgeons in America, so once in a presidential address, he mentioned this anecdote: One day he met Dr DeBakey; he was already in his 60s while DeBakey was in his 80s, and the latter asked, "Hey boy! What are you doing nowadays?" DeBakey's trainee answered, "I am doing this research." To this, DeBakey replied, "Good, you are at just about the time to work harder!"

**SMA:** So if you hadn't become a cardiothoracic surgeon, what would you have done? Would you have become a writer, diplomat or historian?

**TMC:** No, I don't think so. I would be another

type of surgeon – probably specialising in hepatobiliary or something. I don't think I have the patience to be a general practitioner; I can't stay without action. It's a personality thing.

But your question should be, "if you hadn't become a doctor" instead. If I were not a doctor, who knows? There are many options. Actually, after the financial crisis, I became interested in all things financial and I read and learnt more about hedge funds and the like.

**SMA:** One last question. What do you think is the biggest challenge and biggest excitement in China in the next five years?

**TMC:** I spent some time there in the 90s, as I went there quite often to do operations. The whole country is trying to modernise; it is good in that there is a revival of the classical culture, and that more and more people value it. It is like a revival of the good parts of indigenous Chinese culture – a Chinese renaissance.

At the moment they are happily copying in every industry; they just want to get rich quick – it can't be helped. But they recognise the problems. I think demographic changes and environmental issues are the biggest challenges. Hopefully, in politics, wise, principled and competent leaders will be in charge so as to avoid making mistakes like in the past and those in the West.

**SMA:** Thanks so much, Dr Tong.

**SMA**

# 治病為民