

**MEDICINE & THE ARTS:
HUMANISING HEALTHCARE**
UNIVERSITY OF CAPE TOWN

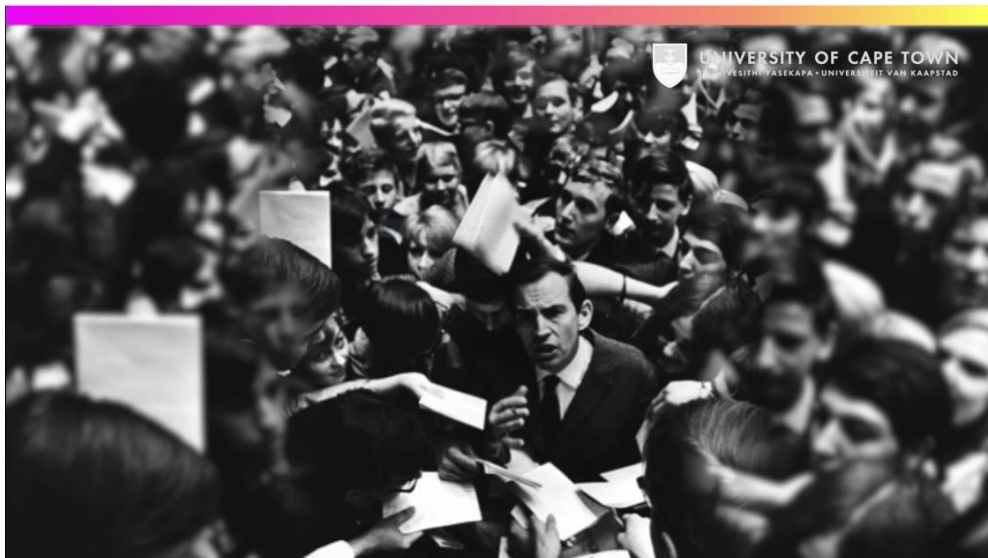


WEEK 1 THE HEART OF THE MATTER: A MATTER OF THE HEART
ON HEART TRANSPLANTS

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Thank you for joining me here in the heart transplant museum. This is where it all started. This is where the first heart transplant was performed more than 40 years ago. And it really put Cape Town and medicine, particularly, in Cape Town on the world map. It was the most publicised and will probably remain the most publicised medical event of all times.

CHRIS BARNARD AT PRESS CONFERENCE



© The Heart of Cape Town Museum

CHRIS BARNARD SURROUNDED BY MEDIA



© The Heart of Cape Town Museum

So following that first really memorable heart transplant, what has happened to heart transplantation subsequently? What is probably less known to the public at present is that unfortunately, the first 10 years or so after that first transplant there was very poor success in terms of long term survival for transplantation. And this very much put a cap on heart transplantation activity worldwide, except for four pioneering centres, of which Groote Schuur Hospital was one.

So from 1980, when heart transplantation moved out of the experimental era into a clinical reality for many patients with end-stage heart disease, the number of transplants rapidly escalated to a total of 4,000 transplants performed annually throughout the world. This number has plateaued and stayed at that level mainly because of the lack of donor organs worldwide.

Other techniques being used are to try other forms of alternative therapy to keep patients off the waiting list for heart transplantation. And increasingly in the first world where these devices can be afforded, mechanical support devices are taking the place of heart transplantation worldwide. However, the results with this are not nearly as good as with heart transplantation, where the median survival, that is the average survival of patients is now 10 years.

You're now in the donor theatre the actual theatre where Denise Darvall the world's first heart transplant donor, where the heart was harvested from her. This was a real historic event, not only from the fact that it was the first transplant, but also the first patient, and the only one, where we actually waited for the heart to stop before taking the organ. After that, brain death laws were pretty universally accepted. And

subsequent donor hearts were taken while the heart was still beating. Obviously, in all these patients, the patient was brain dead.

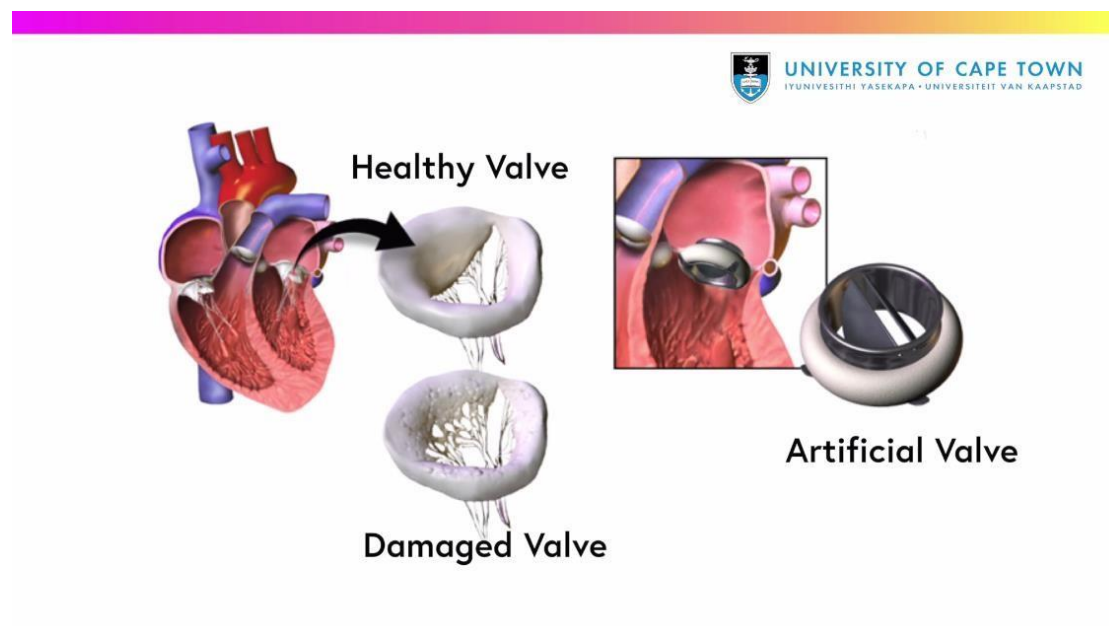
Very little has really changed in heart transplantation, since Chris Barnard did that very historic heart transplant in 1967. We do exactly the same procedures. The patient, that is the recipient, gets placed on the heart lung machine.

The old heart gets removed. And the new heart gets inserted into the chest of the recipient, using exactly four sutures- one for the aorta, one for the pulmonary artery, one for the left atrium, and one for the right atrium. And we very much do the transplant today exactly the same as he did in 1967.

What has really changed over time is that we have far better understanding of the mechanisms of rejection. We have far better drugs available to us, ones with less side effects. We can also tailor different drugs to different recipients, so as to give them a really good quality of life

However, what's very important is that, although heart transplantation is the so-called pinnacle of heart surgery worldwide, there are very much greater challenges in facing the burden of heart disease with more conventional operations, such as coronary artery bypass grafting, operations for babies born with abnormal hearts, so-called congenital heart disease, and increasingly in Africa and in South Africa, the need for patients to have heart surgery on their valves, which are usually damaged in the third world by rheumatic heart disease.

HEART VALVE REPLACEMENT



CC BY BruceBlaus

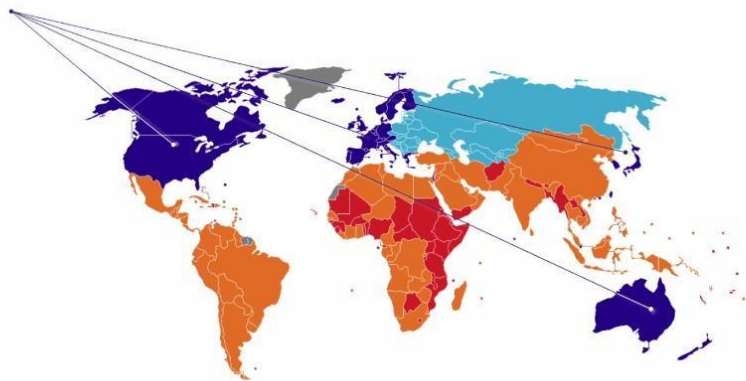
Heart transplantation used to be a very big part of my daily working life, when we were doing up to 35 to 40 transplants a year. But now that there are more centres in South Africa doing heart transplants, our numbers have reduced significantly, predominantly due to the lack of donor organs.

WHO RECEIVES HEART VALVE PROSTHESIS



WHO RECEIVES HEART VALUE PROSTHESES?

350,000 HV Replacements/ Year in the Developed 1st World

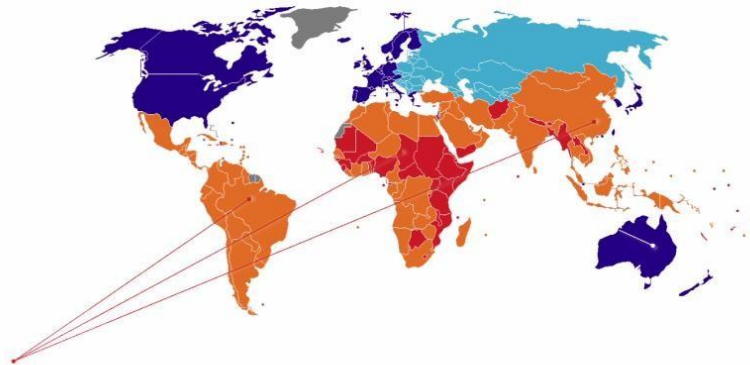


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Internationally, approximately 350,000 artificial heart valves are implanted into patients worldwide. And this is predominantly in the first world countries, such as in Europe, the United States of America, and Australasia.

However, we estimate that approximately 25 to 50 million people in the third world would ideally require artificial heart valve prostheses. So at the moment, heart surgery is really only catering for the fortunate few in the world. Whereas a global heart need is in the third world. And this is our biggest challenge here on the tip of South Africa to try and get more patients to get their badly needed heart valve surgery.

WHO NEEDS THEM



WHO NEEDS THEM?

25-50 million patients in the developing world

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For me, as a surgeon, I'm working on the heart on a daily basis. Is it really just a pump? Chris Barnard used to maintain that, that was all the heart is, just a simple pump. And seeing it purely from the mechanistic point of view, I think this is really what it is. And I spend a lot of my time fixing or replacing this so-called pump.

However, for the public, I think the heart means a lot more. There's a greater perception of the heart by the public than just a pump. It is often seen as a seat of our very emotions.

It is used to describe love, despair, life itself. And my co-presenter, Doctor Peter Anderson, will be able to give you a better perspective about how the heart fits into the public perception of what the heart really is. Is it just a pump? Or is it a lot more than that?



Johan Brink, 2015

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