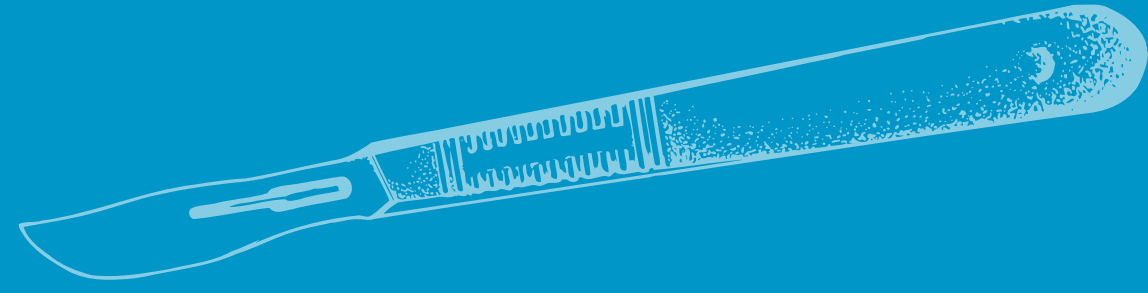


ENOCH AKOWUAH

SURGEON OF THE MONTH



What made you decide that cardiac surgery was the career for you and why did you choose to subspecialise in minimally invasive techniques, particularly on the mitral valve?

I definitely 'stumbled' into CT surgery! I remember seeing an aortic valve replacement for the first time at Glenfield Hospital in Leicester and was fascinated by it. It looked complex, but I remember thinking – 'I can actually do this'. Of course, that was the beginning of a long journey of surgical training and research etc, but in the end, it was the great surgeons I met along the way who nurtured my interest and 'got me there'!

As for the mitral valve, I was initially drawn to it because it felt like the most complex of the cardiac surgery procedures. I remember sitting in meetings as a trainee, listening to various 'experts' describing how complex mitral valve repair was, and describing a myriad of techniques to address increasingly complex pathologies! It turned out, it's not that complex after all. It's fun surgery and with a small number of techniques, you can repair 95% of valves, and, you get that instant gratification on the post-op TOE when your repair works!

You developed the world's largest RCT for minimally invasive cardiac surgery, the UK Mini Mitral Trial - could you summarise its key parameters and outcomes, and your decision process when determining these?

Doing a trial of sternotomy vs MIS mitral repair was a no brainer - how else are we going to show that it's safe? How else are we going to influence the guidelines to change? How else are we going to convince commissioners to pay for it? How else are we going to get industry to invest in the R&D to make the operations safer and quicker?

We owe a lot to the pioneers who established MIS, but the mantle now falls on my generation of surgeons to 'move the dial' and provide all the evidence to drive forward each of the aims above.

It has been described as ‘the trial that will never be done’. What were some of the main challenges you had to overcome with its development?

By far the biggest challenge in cardiac surgery research is surgical equipoise! Most surgeons invest so much time, skill and reputation in learning new, complex techniques and as such, find it difficult to then go back and answer the basic questions - does it work, and how well does it work? As a result, we end up not doing the research. Can you believe that MV repair has never been compared to MV replacement in an RCT? My bet is that another specialty, say cardiology, would have done that trial over two decades ago.

There were other challenges too, surgical trials need complex designs to answer the question properly. And, of course, there is the thorny issue of how to cope with surgical expertise in the trial design.

What factors motivate you to pursue new research and develop innovative techniques within the field of cardiac surgery?

It's the way we keep the specialty alive. Everyone thinks the main threat to our specialty is innovative percutaneous alternatives. Actually, I take a different view. For me, the main threat is that the cardiac surgery done by my retiring colleague, (Simon Kendall, SCTS president), is fairly similar to the cardiac surgery I do now, and probably also similar to the guys, (and they were mostly guys), who trained my retiring colleague in the 80s!

Think about it, when I left medical school in 1997, most CABG patients were having on-pump surgery done via sternotomy and using the LIMA + 2 VG done by open vein harvest. All patients went to ICU after surgery. Most patients spent 6 days in hospital, couldn't drive for 4 weeks, and started post-op cardiac rehabilitation 8 weeks after surgery. None of that has changed, that is still the pathway for my patients having surgery tomorrow.

We need to innovate and change the entire pathway. Prehabilitation, minimally invasive surgery, enhanced recovery, earlier rehab and return to normal activity. We need new innovation and research in all of these areas to fundamentally change the patient pathway and make it fit for 2022 and beyond.

That my fundamental drive and motivation.

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The trial was one of the first of its kind to use accelerometer devices to gauge recovery in patients - what were some of the positives and negatives in collaborating with industry? Do you think this will become common place in the future?

Partnership with industry is key. They often bring significant research expertise and, of course, funding. The key is to prevent undue influence in all aspects of the research (design, delivery, interpretation of outcomes and dissemination). When industry becomes involved in those aspects, it can then be really difficult to separate the 'wheat from the chaff'. We've seen this with TAVI already and with the COAPT and Mitral FR trial for treating functional mitral regurgitation with mitral clip.

Yourself, and a team of colleagues from James Cook University Hospital in Middlesbrough carried out in a philanthropic mission to provide cardiothoracic and cardiology services in Ghana in 2019. Can you describe your experience from the trip and some of the biggest highlights?

This remains one of the most rewarding experiences in my career as a doctor. The highlight was watching the Ghanaian team perform an AVR independently. To see the whole Ghanaian team pull together and perform a successful operation, realizing for themselves that it is possible, was amazing.

What were some of the challenges you faced in providing this service in an unfamiliar setting? Is there anything you learned from this experience that you would do differently in the future?

The key secret to success is to listen to the local team. It's no good for you to try and impose what you do (and frequently think is best) on them. They've spent their entire careers finding innovative solutions to complex issues. You need to embrace that. So, the big challenge is how you adapt to their environment - once you crack that, you're halfway there.

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**One of the biggest goals for this mission was to ensure its sustainability and to enable healthcare workers in Ghana to be able to provide this service for themselves, ongoing.
How successful were you in achieving this?**

The big challenge has been COVID-19, which interrupted a carefully thought-out plan, funded by the Edwards Foundation and in conjunction with Cardiostat (an international charity based in the US), who were essential in really getting cardiac surgery going in Kumasi. We hope to revisit that this year.

The big success is that Kumasi now has an autonomous pacing service for the first time. Before our visit, patients died from simple heart block! With our training, a pacemaker service is now established - totally lifesaving. We've also found a way to supply the devices so patients can get a pacemaker very cheaply.

Finally, what advice do you have for students and aspiring surgeons hoping to get involved within the charity sector or to develop future initiatives?

First thing, it's fun - so do it! Secondly, make connections, there are several groups doing this work internationally. Thirdly, make sure you can add value - it may be something as simple as being the bus driver for the team or sorting out logistics. Finally, understand that it's an opportunity for you to learn. It may be different, but healthcare professionals in the third world work in the most challenging situations, and do amazing work with the little resources they have - be prepared to be wowed!

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