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Open heart surgery in sub-Saharan Africa: challenges and promise

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Throughout the history of surgery in the world, challenges were constantly part of the way forward, and this is certainly true for open heart surgery (OHS). In the past, challenges often inspired surgeons to develop innovative treatments leading to better quality of OHS performance. Therefore, challenges had a positive impact on the development of OHS over the last century.

Let us remember two giants in their respective surgical odyssey to improve cardiac surgery during their lifetime: **Dr. John W. Kirklin** and **Dr. Alfred Blalock**.

In the eighth edition of William Osler's principles and Practice of Medicine [1912], Osler wrote: "*Congenital heart disease have only a limited clinical interest, as in a large proportion of the cases the anomaly is not compatible with life and in others nothing can be done to remedy the defect or even to relieve the symptoms*".

At that time, surgical treatment for congenital heart malformations did not exist and early death was inevitable. An example of a cyanotic congenital heart disease (CHD) is **Tetralogy of Fallot (TOF)**, which was a challenge for cardiologists and surgeons. Finally, hope came from **Helen Taussig** who developed the concept of a "blue baby operation" and asked **Dr. Alfred Blalock** for implementation. Mary Allen Engle, a pioneer in pediatric cardiology was present in the operating room during the historic first "blue baby" operations. She describes that the so-called "**Blalock-Taussig procedure**" **was realized successfully for the first time in 1944 on Eileen Saxon, a 1-year-old very blue baby** with frequent Tetralogy attacks. It was introduced by surgeon Alfred Blalock and pediatrician Helen Taussig from Johns Hopkins Medical School, North America and still gives hope to date. The Blalock-Taussig procedure has opened the door for open heart total repair of TOF to be done with confidence.

In the 1950's one of the major challenges was to accomplish correction of intra-cardiac lesions within a bloodless heart using a heart-lung machine. One day, Earl Wood, a well-known physiologist and advisor to Dr. John W. Kirklin, called Dr. Kirklin in his office at Mayo Clinic in Minnesota, North America and said: "*John, you're never going to do any better with a heart like this until you get inside of it and can work in there at your leisure*". John replied: "**Well, that means a heart-lung machine.....then, we'll have to have one**". Finally, the "**Mayo-Gibbon heart-lung machine**" **was created allowing Dr. Kirklin to successfully perform OHS as a standard operation.**