

Peer Review File

Article information: <https://dx.doi.org/10.21037/jtd-21-1117>.

**Reviewer A:**

The author presents a narrative history of cardiothoracic surgery in South Africa, which is long, rich, and has changed the field across the globe. The article is descriptive and reads well, but is more akin to an informal narration (e.g., “Back to the story...”; I-form; using first names; “Who was Sir Terrence?”) rather than a formal article. I have some comments to improve the manuscript:

Major Comments:

Comment 1: The timeline is often confusing, jumping back and forth in time (e.g., page 3 to 4 to 5) and is best restructured to allow for chronological reading.

Reply 1: I have restructured this as suggested.

Comment 2: Lines 83-84: Can the author comment on the number of surgeons and countries of origin of these surgeons from other sub-Saharan African countries trained in South Africa?

Reply 2: Difficult but we have had from a number. I have noted what I am aware of.

Comment 3: The article could benefit from headings introducing different sections and better structuring the article.

Comment 4: The article lacks any references. Various of the statements throughout are anecdotal and hard to verify, whereas others can be supported by references. Can the author add these?

Reply 4: I have added

Comment 5: Can the author expand on the position of South Africa in addressing the cardiothoracic surgery inequities across the remainder of the African continent? This is briefly touched upon in terms of training and in the last paragraph, but could benefit from elaboration given the strength of South Africa’s cardiothoracic surgery and to be more concrete for readers who may take this forward.

Minor Comments:

Comment 7:

Line 11: “University” should be capitalized as it is part of a name.

Line 73: “later” instead of “latter”

Lines 76-77: “pandemic” refers to a global outbreak; while AIDS still is a pandemic, the reference to South Africa makes “outbreak” more appropriate.

Line 82: “effect” instead of “affect”

Line 104: “Its” instead of “It’s”

Line 131+139: “Clinic” should be capitalized as it is part of a name.

Reply 7: Corrected.

**Reviewer B:**

Thank you for the opportunity to review this fascinating inside look at CT surgery in South Africa. My questions largely pertain to wording and a few queries out of interest.

Comment 1: Line 64 - " Groote Schuur being rated internationally very highly". "very highly rated internationally"?

Reply 1: Corrected

Comment 2: Line 65 - " stimulated the anaesthetic program". "anaesthesia team"?

Reply 2: Corrected

Comment 3: Line - 36 - "....who was a man of the world. A man of the world who was brilliant, demanding...., " Does the first man of the world mean Barnard and the second man of the world mean Hewitson? Pls clarify as the context makes it confusing as to who is being referred to.

Reply 3: Corrected

Comment 4: Line 69 - "During those days of dark apartheid", "During dark days of apartheid"?

Reply 4: Corrected

Comment 5: Line 78 - "placed on the specialities such ", "placed on specialties such as"?

Reply 5: Corrected

Comment 6: Line 295 - "but the driving force and eventually the financial support came from the local community.", please rephrase this " but the driving force came from the local community."? or make the last phrase a separate sentence.

Reply 6: Corrected

Comment 7: Can you speak to how medical institutions currently implement policies

to be inclusive of both black and white talent? After all, the vibrancy of any community, medical or otherwise, is dependent on being able to harness all the human capital available rather than setting up artificial barriers emphasizing criteria not important to the task at hand.

Reply 7: Corrected

Comment 8: Has the cardiothoracic training paradigm changed since Barnard's time? And if so, how has it impacted the trainees. Is research built into the training? I have always been very impressed with SA trained doctors overall.

Reply 8: Expanded

Comment 9: How has South African cardiothoracic surgeons and trainees been groomed to continue the tradition of excellence in cardiothoracic innovation in SA? Scholarship opportunities abroad. What are some funding mechanisms such as private foundations/donors and public research funds? I hope this article can make the international community aware that SA cardiothoracic programs have resources for continued innovation and should be sought out for collaborations.

Reply 9: Expanded.

Comment 2: Thank for for the opportunity to review this article. The historical perspective is fascinating. More insights into the current state of SA cardiothoracic surgery would lend even greater relevance and inform the international community about the opportunities on offer in SA. This is an opportunity to reflect back on a tradition of greatness but also to inspire future generations by spelling out existing opportunities and future possibilities in our field originating from SA. Well done.

**Reviewer C:**

Comment 1: This is an interesting article, however the structure needs major revision. It appears more of a personal memoir than factual history of Cardiothoracic surgery in South Africa at present.

Reply 1: Rewritten as much as possible.

Comment 2: The phrase "Back to the story of the world breaking leaders" is unnecessary and colloquial. The sentence "...was a tall, big, highly articulate man, a paediatric surgeon, and innovator who besides his named procedure, being the first to introduce surgical staples to the western world" is grammatically poor. The "International Meetings in South Africa" section requires expansion or removal. The statement "South Africa has been involved in Botswana, Namibia, Mozambique, Zambia and Zimbabwe" requires further explanation.

Reply 2: Expanded

**Reviewer D:**

Comment 1: I found this paper very interesting, particularly to learn the impact of South African-trained surgeons on global cardiothoracic surgery - including Nuss, Ross and Barnard.

My biggest criticism however is the lack of structure to follow in the paper, which makes it quite hard to read. It jumps between Cape Town and Johannesburg, pre-apartheid to post-apartheid, from surgeon to surgeon. Thoracic surgery as a subspecialty is mentioned several times in the general text then has its own section; the impact of apartheid and post-apartheid political landscape is mentioned again several times in the general text, then has its own section. The impact of South Africa's cardiothoracic program on wider Africa is also mentioned several times. The "brain drain" and its impact on South Africa is mentioned several times. The paper needs much clearer structure and signposting.

Reply 1: Have rewritten as much as possible

Comment 2: The second more minor concern is regarding language and syntax. Although a personal account such as this is engaging, for this journal I find the language and sentence structure too informal and reflective of conversational/spoken word rather than written word. Examples: ""But how did we in Cape Town run our department?" Using very loaded words such as "abuse" and "inhumane""are a bit dangerous (an alternative suggestion is "untenable". Surgeons' names should be consistently referred to initially by first and surname, then surname thereafter; Professors should be entitled "Professor"and not "Prof".

Reply2: Corrected. This is mostly a personal story and difficult to make it more formal.

Finally, I would be interested to know the following:

Comment 3: How many cardiac and thoracic surgeons now in the country

Reply 3: Corrected

Comment 4: Current split between public and private

Reply 4: Inserted

Comment 5: A bit about the training program (is it hospital-based, state-based, or centralised; how many units train, how many trainees)

Reply 5: Explained

Comment 6: The current state of affairs of the transplant program (how many units perform transplant and which, public vs private, numbers, organ donation system)

Reply 6: Explained

Comment 7: does South Africa see any particular disease processes more than other developed countries (eg: trauma, rheumatic or other valvular disease, tuberculosis-related pathologies)

Reply 7: Explained.

**Reviewer E:**

Comment 1: Prof Ben Le Roux legacy? please clarify what that is? there are many academic giants in the cardiothoracic field so maybe a mention of what his focus was of how he stood in comparison with the others listed in this article- the paragraph on him was very vague

line 222-225, 237-239 - confusing, needs to be rephrased more clearly, grammatical errors

250-259 --> needs to be presented more cohesively with appropriate transition. stating that cardiac surgery overshadowed non cardiac surgery education and mentioning laparoscopic to VATS to then the nuss seems a little fragmented.

Reply 1: Rephrased.

Comment 2: I like the concept of the paper - announcing the great cardiothoracic physicians that came out of South Africa and how they have contributed to the field along with what transpired in South Africa that has limited these great surgeons to practice there and now to bring attention and recruitment to South Africa is a progressive ambition that this paper can have an impact within the field and serve the author's ultimate goal. I think with the minor revisions as suggested with a more cohesive flow and minor grammatical corrections, the paper will be publishable. thank you for taking the time to bring our attention to South Africa and it's history in the cardiothoracic field.