

Reviewer A

In this letter to the editor, Sarofim provides an overview of potentially negative effects of artificial intelligence in healthcare.

1. There are certainly important points here that I would never argue (transparency, accountability, concern for job take over). However, it reads more like the rant of someone in a lunch room and does not provide substantial examples that help a reader truly understand how exactly has AI encroached on surgeons and where are immediate next concerns vs way future. There are just general hand wavings about privacy, bias, decision making as opposed to “for example, machine X was created in 2022 which outperforms surgeons X% of the time at procedure X.”

Reply 1: Thank you for acknowledging the important points raised regarding the negatives of AI and that this a very topical issue. The article is intended to focus only on a one-sided discussion since the positive benefits of AI are commonly described and overshadow the potential negatives/risks - which has been clarified in paragraph 1. A restructuring of the introductory sentences in each paragraph (e.g. secondly, thirdly, finally) has been included to give more structure.

Based on your suggestions, specific examples have been included to provide more depth to the topics raised such as:

- Paragraph 2 – discussion of SurgicalGPT and its use of vision-language models to more accurately answer questions during robotic surgery.
- Paragraph 2 – discussion of OpenPath which impressively utilizes images from twitter, but reduces the need for mentorship/teaching.
- Paragraph 4 – effect on changes to surgical training, such as the use of Augmented reality in surgical training, and avoiding reduced demand for surgical educators.

2. Stronger references could be utilized though I understand reference limit in LTE.

Reply 2: Additional up to date references have been included to strengthen the piece, while remaining within the recommended LTE limits.

3. Several spelling errors. Eg: line 67 prioritized

Reply 3: UK spelling was used in the original draft of the manuscript, but US spelling has been used in this revision as requested which has corrected this.

4. I do not follow this flow of thought: “It naturally follows that surgical education, training and personal development must also be considered and prioritized. How much can we leverage the technology as a tool to augment our capabilities rather than replace them?”

Reply 4: Thank you for identifying this which has been re-phrased for clarity (paragraph 4). Given the potential for job displacement, less surgeons/specialties may be required and therefore the number of medical students and surgical trainees may need to be adjusted to avoid ‘over-supply’ in the context of reduced demand.

Reviewer B

1. The author discusses potential negative impact of AI in the field of Surgery, namely over-reliance of AI and hence loss of basic surgical skill, addressing ethical issues such as transparency and accountability, and finally displacement of job. The concern is valid and the threat are real.

Reply 1: Thank you for the positive feedback and identifying the important raised which should be openly discussed and debated.

2. The author points out that there is no balance between human expertise in surgical skills and machine automation, which is not entirely true. The concept of co-piloting in medical practice, including surgical intervention is a hot topic. In the management of a surgical case, it is not just the cutting and coagulating that matters, the assessment of the patient's condition, before, during and after the surgical operation plays an important role in safety and success of the treatment. This should be included into the discussion. The author has also pointed out the importance of education and training. It is desirable to have some indications on the future ways and standards of training in surgical field e.g. how to train surgeon to harness the power of machine learning and automation.

Reply 2: The impact of AI on surgical training is a broad topic and could certainly form the foundation of an entirely new manuscript. However, to provide an example of an emerging/future standard of training, a mention of augmented reality has been included in paragraph 4 to further expand this point.

The statement that there is “no” balance has been modified to state that is “it is challenging” to achieve balance. The author agrees that perioperative management (pre, during, and post-surgery) are essential for successful treatment; as suggested, this has been included at the end of paragraph 4 “surgical practice which includes perioperative management”.

3. This article has pointed out several valid issues but focusing only on the negative impact without shedding any light on potential solutions. It would be a more balancing view if this can be co-authored with more background in ethics and/or engineering training.

Reply 3: This point is acknowledged, and as mentioned previously and clarified in the introduction: the article is intended to focus only on a one-sided discussion for the simple reason that the positive benefits of AI are increasingly described in much of the literature on AI. The goal of this article is to ensure that clinicians and policy makers alike are reminded

that with anything positive comes some potential risks. However, to address this feedback several examples have been included which speak positively on the benefits of AI such that it improves the balance of the manuscript.