

## Peer Review File

Article information: <https://dx.doi.org/10.21037/ga-24-63>

### Review Comments

#### Reviewer A

Although a description of current states of the art is useful in breast reconstruction, as in any field, I am not sure this achieves that adequately here.

**Comment 1:** Firstly, the title mentions the United States - where in this review is this isolated to the US? The search criteria do not highlight this, and the results do not either.

**Reply:** We thank the reviewer for their comments. We have made substantial changes to this review and included a more comprehensive discussion on the methods of the paper. We do want to highlight the fact we did focus on autologous breast reconstruction advances in the US but also the World given this is common practice in the US too. We have included this in the methods section in line 70.

**Comment 2:** The paper is very poorly established as a narrative review. The introduction is very brief, the methods is almost non-existent, and not adequate for a narrative review. There is no clear understanding of inclusion/exclusion, design or the like. The paper is an "editorial" and not clearly a useful demonstration of the state of the art.

**Reply:** We thank the reviewer for his comments and have proceeded to change the layout of the review. We do want to emphasize this paper is designed as a narrative review, which does not have a systematic component as the often-confused systematic review. Although we comprehensively reviewed the literature (as added in our methods section in lines 62-75 with inclusion criteria), no formal search terms were used to identify relevant articles, which were selected based on historical importance and changes to practice. In addition, the introduction briefly introduces the topic but as inherent to narrative reviews, the bulk of our findings are detailed throughout the manuscript. Please refer to - PMID: 35991099 for further clarification on narrative reviews. We have also expanded our review to include more flap options, minimally invasive autologous reconstruction, preoperative mapping, neurotization, and post-operative considerations in lines 315-395.

#### Reviewer B

I have carefully assessed the paper and appreciate the effort invested in the research. After thorough consideration, I regret to inform you that I cannot recommend the publication of the manuscript in its current form. I have some considerations.

**Comment 1:** There are several fundamental concerns that need to be addressed, such as the assertion that "there are no absolute contra-indications to microsurgical breast reconstruction", because there are.

**Reply:** We thank reviewer B for their helpful comments and have redacted the manuscript

heavily based on this. We have removed this statement and have added to the manuscript to say that relative contraindications do exist.

**Comment 2:** Radiotherapy and chemotherapy impact the final outcome of the reconstruction.

Reply: We have included these relative contraindications in line 446-448.

**Comment 3:** The traditional preoperative imaging modality is CTA, whereas recent advancements indicate ultrasound as one of the most effective imaging techniques for reconstructive microsurgery.

Reply: Thank you for your comments which have helped us improve the manuscript. We have now included a section on preoperative perforator marking section including multiple imaging techniques in lines 361-375.