

Peer Review File

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Reviewer Comments

Comment 1: Thank you for the opportunity to review this review on machine learning in outpatient spine surgery. I commend the authors on their work. There are some comments that I believe will enhance the manuscript.

Response 1: Thank you for taking the time to review our manuscript. We appreciate your comments and look forward to any further suggestions you may have.

Comment 2: This study should be in a format similar to a systematic review methodology. How were these studies found? How many were excluded in the review? Providing this methodology would enhance the manuscript, as in current form as a “review” does not reach high enough significance.

Response 2: This study was done as a standard review rather than as a systematic review. As such articles that were included in this manuscript were chosen based on the authors opinions regarding importance and relevance to the topic.

Comment 3: The authors should add more details of how machine learning algorithms were implemented in the respective studies, and discuss how different algorithmic approaches to machine learning can be heterogenous in nature. However, the use of an algorithm has shown to be potentially useful.

Response 3: Thank you for this comment, we would appreciate some clarification however. We made efforts during initial manuscript writing to comment on which machine learning techniques were used in these studies. For example on lines 236-237 we discuss that Passias et al utilized conditional inference decision tree modeling for their study. Or on lines 195-196 when we discuss the paper by Wang et al which used an Artificial neural network for determining safe patients for outpatient ACDF. IF you would like us to expound on some of the common subsets of machine learning models like what a random forest analysis or a support vector analysis is then we can do so, however we felt that this may make the review cumbersome. I am not sure what is meant by “algorithmic approaches” to machine learning.

Comment 4: The authors should expand on how machine learning methodologies that identify at-risk patients may have implications on insurance. How should this data be used by all parties involved and what pitfalls it may create if not used for it’s intended purpose. These discussions in a future direction paragraph I believe would enhance the review as it leaves readers thinking about the next steps.

Response 4: This is a great idea, lines 322-331 were added to address this thought and give the readers an important idea to consider when thinking of the subject of machine learning.

Once again I would like to commend the authors on their efforts and look forward for a revised version.