Peer Review File

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Reviewer A

Comments

Comment 1: One minor comments that readers might be interested is the amount of radiation dose (mean) per DCR.

Reply 1: Thank you for your helpful comment. We have added the following sentence about radiation dose in the revised manuscript.

Changes in the text: see Page3, Line18. “Maximum achievable effective dose for a combined posteroanterior (PA) and lateral image series was 0.17 mSv in this study.”

Reviewer B

Comments:

Comment 1: The original article found a significant correlation with traditional PFTs, but the relationship was not very tight. The original paper proposes this as an adjunct to PFTs, and not necessarily as a replacement. How would this impact future adaptation? What about situations where PFTs and DCR had discordant results?

Reply 1: Thank you for your reasonable comment. As the reviewer mentioned, DCR is not enough to use as an alternative for PFT for now. However, as written in the “HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY” in the article, the authors eventually aims to substitute for PFT by DCR in the future. To achieve it, further technological innovation are needed. Therefore, we have added the following sentences in the revised manuscript.

Changes in the text: see Page4, Line9. “Moreover, the connections between DCR parameters and lung volume divisions in this study, while statistically significant, did not exhibit particularly strong associations. Hence, occasional disparities between DCR parameters and PFT results can be anticipated. To establish DCR as a suitable alternative for precisely determining lung volume subdivisions, additional technological innovations are desirable.”

Comment 2: What is involved in setting up DCR? Can this be done with traditional fluoroscopy machines (available in any radiology department), or is dedicated equipment required?

Reply 2: Thank you for your helpful comment. DCR requires 3 equipment, flat panel detector that supports movie capture, X-ray generator, and dedicated analysis software so far. Therefore, it is difficult to be performed with traditional fluoroscopy. We have added the following sentences in the revised manuscript.

Changes in the text: see Page3, Line8. “DCR system is composed of a flat panel detector with a large FOV that covers the entire lung and supports capturing sequential images, a pulsed X-ray generator, and dedicated analysis software. If these components have been installed, DCR can be performed in any general X-ray examination room.”