

The Cochrane Systematic Review on Thoracic Imaging Tests for the Diagnosis of COVID-19

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Editor:

We thank Kanne *et al.* for their excellent review on the role of imaging in diagnosing COVID-19 pneumonia (1). The authors state that there is limited use for CT chest in the diagnosis of COVID-19 pneumonia because of low specificity (1). They cite the initial version of the 'Living' Cochrane Systematic Review on the diagnostic accuracy of imaging tests for COVID-19, published in September 2020, which identified that chest CT had a specificity of 18.1% (95% confidence interval [95% CI] 3.71-55.8) and sensitivity of 86.2% (95% CI 71.9-93.8) (2).

As research on this topic is advancing rapidly, this 'Living' Cochrane Systematic review will strive to keep pace with the evidence. The first update was published in November 2020 (3), and the second is currently '*in press*' (4). Notably, the specificity of chest CT has increased substantially with unchanged sensitivity. In the latest update, the specificity of chest CT was 80.0% (95% CI 74.9-84.3) and the sensitivity was 87.9% (95% CI 84.6-90.6); estimates were derived from 41 studies and 16,133 participants (4). Possible explanations for improved specificity are better definitions for index test positivity (e.g. scoring systems such as CO-RADS) and studies conducted later in the pandemic having the benefit of improved knowledge about the disease (3). Additionally, in the latest update, chest x-ray and chest ultrasound for the diagnosis of COVID-19 pneumonia were investigated (4). The specificity of chest x-ray was 71.5% (95% CI 59.8-80.8) and the sensitivity was 80.6% (95% CI 69.1-88.6); estimates were derived from 9 studies and 3694 participants (4). The specificity of chest ultrasound was 54.6% (95% CI 35.3-72.6) and the sensitivity was 86.4% (95% CI 72.7-93.9); estimates were derived from 5 studies and 466 participants (4).

These findings should be considered in light of high or unclear risk of bias in many studies included in the review. We hope that future studies will prioritize methodologic rigor and transparent reporting. Furthermore, as there was a low number of included studies for chest X-ray and ultrasound, future updates of the review will aim to increase the precision around the accuracy estimates for these imaging modalities.

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