



*Société Française de Médecine Nucléaire
et Imagerie Moléculaire*
MAISON DE LA MEDECINE NUCLEAIRE
5 rue Ponscarne 75013 Paris
Tél : 01 44 75 88 16
Email : secretariat@sfmn.org -<https://www.sfmn.org/>

SFMN WORKING GROUP
Ventilatory and Perfusion Lung Imaging

**Recommendations for performing lung scans in the context of an outbreak of
an outbreak of Covid-19 virus¹**

What are the potential risks of performing a ventilation/perfusion chest scan in the context of a Covid-19 epidemic? Patient-to-patient cross-contamination related to the use of the inhalation system.

Technegas™ and Krypton 81m have been used worldwide for several decades. No events of viral cross-contamination or other illness associated with the inhalation system have been reported to date. The risk of cross-contamination of COVID-19 associated with the use of the inhalation system therefore appears to be extremely low.

Contamination of health care personnel and the environment.

The inhalation procedure of the ventilation radiotracer involves close contact of the manipulator with the patient, requires removal of the patient's mask, and may generate a cough. There is therefore an increased risk of transmission in connection with this inhalation phase of the radiotracer.

What measures should be applied to limit the risk of contamination when performing a lung scan in the context of an epidemic due to the Covid-19 virus?

Replacement of ventilation scintigraphy by low-dose CT scan alone?

Several studies have evaluated this procedure for the diagnosis of acute pulmonary embolism.

Replacing ventilation with CT scan alone has little impact on the sensitivity of the examination, which relies on perfusion scintigraphy. In other words, this procedure is unlikely to "miss" a pulmonary embolism.

On the other hand, this work has consistently reported a decrease in specificity with a significant risk of false positives (15-20% of negative ventilation/perfusion CT scans being misclassified as positive by substituting ventilation with CT). Given the haemorrhagic risks associated with anticoagulation therapy, this risk of diagnostic error is not acceptable.

Therefore, if a chest CT scan is required for the diagnosis of pulmonary embolism, the performance of a CT scan as an alternative to ventilation scans is not recommended. Both scans, ventilation and perfusion, should be performed.

What precautions should be taken for the staff?

If a ventilatory/perfusion lung scan is required for the diagnosis of pulmonary embolism, the institution's current Covid-19 precautions, adapted to the clinical setting (patient's Covid-19 status) and local organizational constraints, should be applied.

¹ Translated with www.DeepL.com/Translator

We invite all departments to set up procedures for cleaning the examination rooms between each examination (of the type for Multi-Resistant Bacteria) and in accordance with the recommendations of the local CLIN. A dedicated circuit for the management of Covid-19+, or suspect Covid-19+ patients must be put in place if the configuration of the department allows it.

References :

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Professeur Pierre-Yves LE ROUX
Head of the SFMN Working Group
Ventilatory and perfusion pulmonary imaging
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