SNMMI Value Initiative

SOCIETY OF NUCLEAR MEDICINE & MOLECULAR IMAGING

SNMMI Statement - COVID-19 and Ventilation/Perfusion (V/Q) Lung Studies

REVISED 3-18-2021

As a professional society representing over 16,000 nuclear medicine professionals, it is our responsibility to ensure the health and safety of our patients and members by distributing recommendations to mitigate the risk of COVID-19 transmission in clinical practice. We understand the often-overlapping symptoms that COVID-19 and pulmonary embolism can present and appreciate the diagnostic importance of the ventilation portion of the ventilation/perfusion (V/Q) scan for patient care.

On March 19, 2020, SNMMI released a statement responding to concerns regarding V/Q lung scans and, specifically, the inherent risk of spread of COVID-19 to patients and staff related to the ventilation portion of the study. At that time, many institutions opted not to perform ventilation studies.

Subsequently, on September 3, 2020, SNMMI released an updated statement noting that since March 2020, the COVID-19 pandemic had evolved differently in various regions of the world and, with increased availability of COVID-19 PCR testing, resumption of ventilation studies could be considered in some scenarios.

Since the time of the revised statement (September 2020), there have been significant developments regarding the COVID-19 pandemic, including but not limited to emergency approval of three vaccines by the FDA, all of which are actively being distributed, and readily available COVID-19 testing for the public. Additionally, further safety measures have been introduced and implemented specific to the performance of V/Q scans.

Considering the above observations, SNMMI is again revising this statement to continue to provide the most up-to-date information to our members. SNMMI believes that ventilation scans can be increasingly incorporated as a routine part of the work-up of suspected pulmonary embolism. SNMMI recognizes that there are variations in practice patterns where the primary reliance is on perfusion-only lung scans, aided as necessary with SPECT or SPECT/CT.

The goal of this updated statement is to recognize that, in many situations, a ventilation study may be thought to be clinically necessary to help diagnose lung disease, including vascular and airway disease. In these settings, performance of ventilation studies may be considered, with local and institutional COVID-19 policies and procedures for aerosol-generating and non-aerosolizing procedures serving as the primary source of guidance. The following considerations, which are typically included in facility policies and procedures, should be reviewed prior to performing ventilation studies:

1. Consideration should be given to a COVID-19 PCR test, depending on local policies or institutional guidelines.
2. When performing ventilation studies, technologists should wear appropriate personal protective equipment (PPE) in accordance with local policies.
3. Airflow of the room in which the ventilation studies are performed should be evaluated, which may help to determine the required time for room turnover after the performance of a ventilation study.
4. The selection of the appropriate agent for the ventilation study should be carefully considered.

5. Local infection control groups should be engaged for guidance and to help evaluate facilities, equipment, and staff PPE necessary to safely perform ventilation studies.
6. The approach to performing a ventilation scan in relation to the perfusion scan (i.e. ventilation then perfusion vs. perfusion then ventilation) should be considered according to the clinical indication and consultation with the referring physician may be advisable.

As the incidence and the prevalence of COVID-19 have started to decline in many parts of the country, it may now be feasible to resume the use of ventilation scans to improve the diagnostic specificity of lung scans while following institutional safety guidelines. SNMMI will continue to monitor the COVID-19 pandemic and provide updated information whenever possible.

References and Safety Recommendations

1. Zuckier, LS; Moadel, RM; Haramati, LB; Freeman, LM. Diagnostic Evaluation of Pulmonary Embolism During the COVID-19 Pandemic. J Nucl Med. 2020;61;630-631

2. McFarland, Gail; Johnson, Sara G. Nuclear Medicine Clinical Practice in the United States During the COVID-19 Era and Beyond. J Nucl Med Tech 2020;48(3)218-226

In addition to these considerations, the following safety updates and enhancements have also been developed which may assist with specific VQ study questions.

AMICI	AMICI seeks to provide products and services that meet or exceed our customer expectations, and to continually improve the effectiveness of the Quality Management System. The links below provide additional resources regarding quality and safety measures: General Information - http://www.amici-inc.com/index.php Helpful Hints - http://www.amici-inc.com/helpful_hints_eng.php Technology Briefs - http://www.amici-inc.com/technology_briefs.php
BIODEX Part of Mirion Technologies	Biodex has worked urgently to provide tools to the nuclear medicine committee. The following are resources developed by Biodex in response to the COVID-19 pandemic. VQ studies during COVID 19 https://www.biodex.com/nuclear-medicine/blog/vq-studies-during-covid-19 Radioaerosol Troubleshooting Guide for Technologists https://www.biodex.com/radioaerosol-troubleshooting COVID-19 – Device Disinfecting Guide https://www.biodex.com/covid-19

CURIUM™ LIFE FORWARD	There are a variety of safeguards when using the Xenotron™ I Xenon (Xe 133) Gas Dispenser for use with Xenon Xe 133 Gas in Curium unit dose vials that help ensure patient safety. For more information, please visit: https://www.curiumpharma.com/2021/03/17/a-statement-on-the-use-of-xenon-xe-133-gas-during-the-covid-19-pandemic/
JUBILANT RADIOPHARMA	Jubilant Radiopharma supports the SNMMI guidelines. We encourage users of DRAXIMAGE® DTPA (kit for the preparation of Technetium Tc 99m pentetate injection) to contact their preferred nebulizer supplier for the most current guidance's for the safe administration of DTPA. Click here for Full Prescribing Information for DRAXIMAGE® MAA (Kit for the Preparation of Technetium Tc 99m Albumin Aggregated Injection) Click here for DRAXIMAGE® DTPA (kit for the preparation of Technetium Tc 99m pentetate injection), for intravenous and inhalation use) Click here to learn more about our Pulmonary Education Programs
Lantheus FIND > FIGHT > FOLLOW™	Lantheus is pleased to support the SNMMI's updated ventilation/perfusion (V/Q) guidance. Lantheus invites you to visit https://www.lantheusxenon.com/ for comprehensive information on our Xenon Xe 133 gas and our exclusive Xenon Xe 133 gas Calidose® dispenser. While on our website, please view our video recognizing 50 years as the longest, continuous Xenon Xe 133 gas supplier, which would not be possible without all your support.
MEDI NUCLEAR CORPORATION, INC	For over 40 years, Medi/Nuclear® has focused exclusively on image quality using radioaerosol and Xenon, product safety, and customer care. Here to support the needs of Nuclear Departments, the following materials were created to provide practical information for enhancing safety during the Covid-19 crisis. **Safer Radioaerosol Delivery During Covid and Shield Cleaning** **Safer Xenon Delivery During Covid** **Safer Aerosol Drug Delivery for Ventilation Studies and Respiratory Care**