

Accession Number: H0590	ECRI Priority: High	Published: 04/21/2020
Channel: Devices	FDA: Not Specified	Last Updated: 04/21/2020
[COVID-19] N95 Respirator and Surgical Mask Precautions for COVID-19 Patients in the MRI Room [ECRI Exclusive Hazard Report]		

Problem

1. Patients with COVID-19 and MRI staff may need to wear a respirator when in the MRI room.
 1. Respirators have a metallic nose clip that can be attracted to the MR scanner magnet; therefore, the nose seal could be lost.
 2. Nose clips could heat in the presence of strong magnetic fields and radiofrequency signals.
 3. Nose clips are a source of image artifacts.
2. Consequences of problem occurring include:
 1. A high risk of injury to the patient because of heating of the metal nose clip.
 2. Possible contamination caused by the compromised nose seal.
 3. The need to repeat exams because of the metal artifacts, which will reduce the availability of the scanner.

ECRI Recommendations:

1. When taking patients with COVID-19 to the MRI room:
 - a. Ensure that the patient is wearing a surgical mask.
 - a. The MRI suite must have a supply of surgical masks that have been inspected and confirmed not to have a metal nose clip.
 - b. MRI staff should wear their N95 respirators but need to be cautious around the MRI scanner.

Background:

1. Patients with COVID-19 will have MR imaging exams.
 - a. When in the MRI room, patients with COVID-19 need to wear a respirator to avoid spread of the virus.
 - b. MRI staff also should wear N95 respirators in the presence of COVID-19 patients.
2. Respirators like the N95, N99, and KN95 have a metal nose clip.
 - a. A recent [study](#) reported that depending on the provider, some of those clips have a strong magnetic attraction, which can lead to the following:
 - a. Injury to the patient and staff
 - b. Damage to the MRI scanner
 - c. If the respirator or mask is firmly attached, it is very unlikely that it will become a projectile. Therefore, staff can wear them with precaution near the magnet.
 - b. Additionally, during imaging acquisition in the presence of strong magnetic fields, nose clips could overheat and cause injuries to the patient.

UMDNS Term(s)

Respirators, Air-Purifying, Particulate/Gas/Vapor, Chemical/Biological Agent [20703]
Scanning Systems, Magnetic Resonance Imaging, Full-Body [18108]

Geographic Region(s)

Worldwide

Suggested Distribution

Clinical/Biomedical Engineering, Critical Care, Emergency/Outpatient Services, Infection Control, Nursing, Pulmonology/Respiratory Therapy, Diagnostic Imaging, Risk Management/Continuous Quality Improvement, Radiation Oncology/Medical Physics, Staff Education

Comment

- This alert is a living document and may be updated when ECRI receives additional information.