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[COVID-19] Procedure Recommendations for Use of Mobile X-Ray Devices [ECRI Exclusive Hazard Report]		

Problem

1. Mobile x-ray units are being used in makeshift emergency rooms or triage areas on contagious patients. Without proper precautions, the units may get contaminated.
2. Use of a contaminated unit may lead to the following:
 1. A high risk of patient cross-contamination and/or staff contamination
 2. Reduced availability of the mobile x-ray unit because of decontamination procedures

ECRI Recommendations:

1. When using mobile x-ray units for the assessment of possible COVID-19 patients in makeshift emergency rooms, ensure that the following measures are taken:
 1. Define clean and dirty areas
 2. Radiology staff should be trained in COVID-19 appropriate cleaning and disinfecting procedures.
 3. The image cassettes must be bagged.
 1. The cassette cover must be changed between patients.
 2. The cassette must be cleaned and disinfected (follow the manufacturer's instructions for use [IFU]).
 3. A second cassette could be considered to speed workflow.
 4. The portable unit must also be bagged.
 5. The portable unit must not leave the dirty area. Therefore:
 1. Have a contingency plan to power and recharge the unit.
 2. Ensure that a supply of bags/covers is available for the mobile x-ray unit and cassette.
 6. Keep the portable unit as clean as possible.
 1. One radiologic technician should handle the imaging cassette (contact with patient).
 2. Second radiologic technician should operate the machine (minimal interaction with the patient).
 7. Once the device can leave the care area, every surface must be cleaned and disinfected.
 1. Follow the manufacturer's procedure and use disinfectant agents defined at [Disinfectant Concentrations and Contact Times for EPA's List of Products Effective against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19](#). Ensure that all surfaces remain wet for the contact time specified on the product label.

Background:

1. Mobile x-ray units are used for COVID-19 detection because they are a good alternative to computed tomography (CT). They are:
 1. Faster
 2. Easier to clean and disinfect
 3. Have a higher specificity
 4. Use less of a radiation dose
2. Chest x-rays, have been used to detect COVID-19 when there is lack of appropriate fast testing. Current reverse transcription polymerase chain reaction (RT-PCR) takes longer than a chest x-ray.
 1. Newer test technologies are faster; however, they require that a sample be taken to the laboratory.
3. See the ACR guidance on the use of chest radiography and CT for suspected COVID-19 infection: <https://www.acr.org/Advocacy-and-Economics/ACR-Position-Statements/Recommendations-for-Chest-Radiography-and-CT-for-Suspected-COVID19-Infection>.
4. An image cassette can be easily cleaned and disinfected in comparison to fixed radiology equipment.
5. COVID-19 has been found to have a long life-span on surfaces (2 to 3 days for plastic).

References & Source Documents:

- Environmental Protection Agency List N: Disinfectants for Use Against SARS-CoV-2. Available: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>. Accessed 4/13/2020.

UMDNS Term(s)

Cassettes, Radiography [20787]
Detectors, X-Ray, Digital Radiography [20791]
Radiographic Units, Mobile [13272]

Geographic Region(s)

Worldwide

Suggested Distribution

Clinical/Biomedical Engineering, Emergency/Outpatient Services, Infection Control, Nursing, Pulmonology/Respiratory Therapy, Diagnostic Imaging, Radiation Oncology/Medical Physics, Staff Education

Comment

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