

## UV disinfection as an adjunctive method in the interventional suite

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Dear Editor,

We read the article entitled "Interventional radiology and COVID-19: evidence-based measures to limit transmission" with great interest. There are increasing challenges such as pandemics, high-risk infectious patients, interdisciplinary operations—especially aortic endografts—that have to be met in a modern angiography and interventional radiology suite. A flexible demand-orientated adaptation of the interventional radiology might be crucial in this context.

Although aerosol transmission is uncertain for COVID-19, isolation rooms with negative pressure ventilation with a minimum of six air changes per hour has been advocated by the authors while dealing with the infected patients (1). Exhausting air from the room to the outside or filtering through a high-efficiency particulate air (HEPA) filter has also been recommended. Designed for ventilation of toxic gases formed by the effect of ionizing radiation in the air, angiography suites typically have positive pressure ventilation and a vacuum system that changes the room air up to 15 times in an hour (2). However, neither negative pressure ventilation nor HEPA filter systems may not be feasible in the existing infrastructure of angiography suites in many institutions.

Ultraviolet (UV) devices offer a solution that may produce the same level of air quality as produced by HEPA filters or laminar air systems, at a lesser cost (3). Besides, angiography devices and C-arms may interfere with the laminar airflow in the interventional suite. Literature also shows that on surfaces where manual chemical disinfection may be inadequate, UV disinfection can serve as an additional measure. There are mobile UV systems as an alternative to the fixed UV systems, which allow ease of relocation in any room

at any time without any cost of installation. As UV disinfection efficacy is inversely proportional to the square of the distance and dependent on the surface being targeted, it might require multiple positions or devices and minimal distances from all target areas. All these can be completed in 15 minutes or less using the multiple position strategy which allows disinfection between case practices.

The role of UV radiation in the healthcare environment is described as the destruction of airborne organisms or inactivation of microorganisms on surfaces by 'Centers for Disease Control and Prevention'. Bactericidal and virucidal properties of UV radiation result from the destruction of nucleic acid, with its effectiveness depending on the wavelength of the device, type of microorganisms, and the medium of surfaces. Given the susceptibility of COVID-19 to UV, the ultraviolet lamp could be used as an adjunctive tool to limit transmission in interventional suites, when a plasma air sterilizer is not available (4).

### Conflict of interest disclosure

The authors declared no conflicts of interest.

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