9 April 2020

To whom it may concern,

**PPE requirement: The role of the sonologist and risk assessment during COVID-19 pandemic**

The role of diagnostic ultrasound is essential in the diagnosis and monitoring of patients. The ultrasound examination requires a great deal of skill and training and cannot be provided without close contact with the patient, often for prolonged periods. An ultrasound examination has several unique characteristics that increase the risk of transmission of COVID-19 between patients and ultrasound operators.

The greatest risk of COVID-19 transmission, as described by the Communicable Disease Network of Australia (CDNA), defines two key circumstances: close and sustained personal contact. The ultrasound operator, or sonologist, is therefore at heightened risk of transmission, requiring appropriate personal protective equipment (PPE). An ultrasound examination requires:

- Physical proximity to the patient is less than 1.5 meters, and may be as little as 30–50 cm;
- The ultrasound room or enclosed area is typically less than 4 square metres;
- The ultrasound rooms often have restricted ventilation, as the air-conditioning systems are in some cases closed loop and/or there are no windows;
- The examination time is between 10 and 60 min;
- Invasive or transvaginal procedures may need to be carried out;
- The patient may be required to inhale or exhale deeply, and breath hold;
- Therapeutic and interventional procedures may increase the risk of exposure to bodily fluids;
- There is a risk of the patient coughing, sneezing or exhaling heavily;
- The surfaces of the ultrasound machine, especially the keyboard, touch screen and trackball are required for functionality and therefore touched frequently.

The COVID-19 virus is spread mainly by close contact and respiratory droplets, with airborne transmission considered likely in specific circumstances. Symptoms may appear 2-14 days post exposure. The delayed onset of symptoms requires protection for healthcare workers, such as those performing ultrasound examinations, due to the close proximity as described. A recent study on the ability of an exhaled turbulent gas cloud to carry respiratory pathogens a long distance, suggests that appropriate PPE should be considered for all healthcare workers, even if they remain further than 2 meters away from a symptomatic patient.

The Australasian Society for Ultrasound in Medicine (ASUM) is the premier multidisciplinary society advancing the clinical practice of diagnostic medical ultrasound for the highest standards of patient care. ASUM strongly supports their members and all healthcare workers in close and sustained personal contact, and the requirement for PPE to ensure their safety is providing the essential ultrasound service. Appropriate access to PPE is required despite location of service.
I expect this has provided an explanation of the role and associated risk in the provision of an ultrasound examination. As a duty of care, appropriate PPE must be provided for regular use to ensure the safety of staff in the delivery of this essential service.

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i  Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units
