Letters to the Editor

# Aseptic handling of ultrasound probe: An easy solution

Sir,

Ultrasonography (USG) is nowadays routinely used in anesthesia and critical care practice for nerve blocks, central venous cannulation, and tapping of pleural or pericardial effusions. There have been reports of bacterial infections transmitted through ultrasound probe and coupling gel.[1] To prevent or minimize the risk of infection, USG probe and its cable are generally wrapped in commercially available sterile disposable sleeve. In case of its nonavailability surgical drape, autoclavable sleeves, surgical gloves, or condoms are used. Of these, gloves are the ones majority of USG users are familiar with. The technique includes wearing two pairs of gloves one above another, holding the USG probe having jelly applied over transducer surface with one hand, followed by removing the outer glove inside out over the probe. However, the technique requires multiple maneuvers to fasten the fingers of the glove just above the probe. In addition, some amount of air is invariably left within the glove which affects image quality. In a modified technique to avoid fastening manures, a finger portion of glove is removed aseptically, and the probe with applied coupling gel is advanced through it to cover the probe.[2] Although "sterile glove" technique allows the probe to be used in aseptic condition, the uncovered accompanying cable always carries the risk of contaminating the procedural area during manipulations with the probe.

Alternatively, we suggest a technique involving the use of surgical gown/apron to safeguard against contamination at both ends, i.e., at probe as well as from its cable. The anesthetist after scrubbing holds autoclaved surgical gown in his hand with its sleeve hanging down. An assistant holds the USG probe and drops it through the inner end of the sleeve [Figure 1]. Anesthetist grabs the probe at the end of sleeve. The transducer end of the probe is then covered with transparent sterile adhesive (e.g., Tegaderm) after application of conducting jelly. Rest of the gown is then wrapped around the cable, so that the complete area can be assured sterility without any risk of uncovered cable touching sterile area while the probe is in use [Figure 2]. The surgical apron is readily available in each OT in sufficient numbers and is easily autoclavable. Hence, no additional costs are incurred. The only limitation with this technique is that the weight of the apron may act as dragging force if the cable is made to hang from the operating table.

Irrespective of the type of USG probe cover, the probe should always be sterilized between each patient use by soaking in a high-level disinfectant as ortho-phthalaldehyde, hydrogen peroxide, glutaraldehyde, and peracetic acid.[3] In addition, the transducer must be covered preferably using a cover that is at least 38-μ thick.[4]


## Acknowledgment

Dr. Anamika Purohit.


**Figure 1:** Ultrasonography probe being dropped from sleeve of autoclaved surgical gown

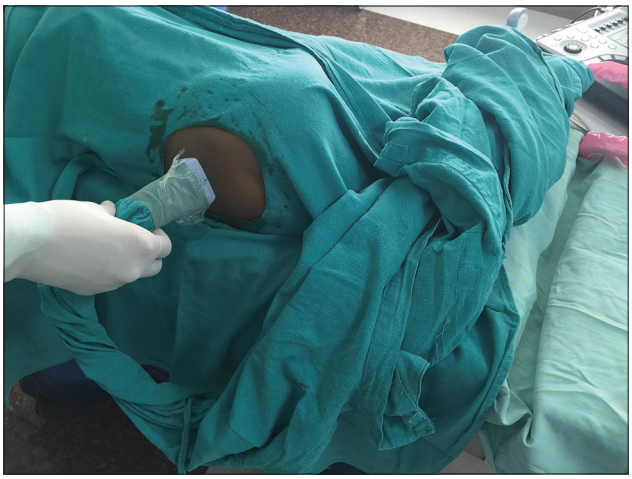

**Figure 2:** Surgical gown wrapped around the cable to provide aseptic field

## Financial support and sponsorship

Nil.


## Conflicts of interest

There are no conflicts of interest.


**Bharat Paliwal, Pradeep Bhatia, Nikhil Kothari, Sadik Mohammed**

Department of Anesthesiology, All India Institute of Medical Sciences, Jodhpur, Rajasthan, India

**Correspondence:**
Dr. Bharat Paliwal,
Sector 23, House 14, Chopasni Housing Board Colony,
Pal Road, Jodhpur - 342 008, Rajasthan, India.
E-mail: docbpali@gmail.com


## References


1. Gaillot O, Maruéjouls C, Abachin E, Lecuru F, Arlet G, Simonet M, *et al*. Nosocomial outbreak of *Klebsiella pneumoniae* producing SHV-5 extended-spectrum beta-lactamase, originating from a contaminated ultrasonography coupling gel. J Clin Microbiol 1998;36:1357-60.
2. Suresh V, Asish K, Devi PS. Improvised glove barrier for ultrasound probe protection. Anesth Essays Res 2015;9:448-9.
3. Rutala WA, David J. Centers for Disease Control, Department of Health and Human Services, USA. Weber and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for Disinfection and Sterilization in Healthcare Facilities; 2008. p. 19. Available from: http://www.cdc.gov/hicpac/pdf/guidelines/disinfection_nov_2008.pdf. [Last cited on 2016 Jul 19].
4. Government of Western Australia, Department of Health. Prevention of Cross Infection in Diagnostic Ultrasound, Operational Directives; Number 0404/12; 2012. p. 4. Available from: http://www.health.wa.gov.au/circularsnew/pdfs/12913.pdf. [Last updated on 2012 Nov 06; Last cited on 2016 Jul 19].





| Access this article online | |
|---|---|
| Quick Response Code: | Website: www.ijccm.org |
| | DOI: 10.4103/0972-5229.190373 |

**How to cite this article:** Paliwal B, Bhatia P, Kothari N, Mohammed S. Aseptic handling of ultrasound probe: An easy solution. Indian J Crit Care Med 2016;20:554-5.