

Central Venous Line Placement and Ultrasound Probe Damage: A Word of Caution

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Dear Editor,

The use of ultrasound (US) during central venous catheter (CVC) placement is strongly recommended, primarily to reduce the number and extent of procedure-related complication.^[1] Sterility is of paramount importance to avoid catheter-related bloodstream infections. Key points are: accurate hands washing, wearing of appropriate sterile equipment, proper skin disinfection, adequate sterile draping of site of puncture and adequate covering of US probe with a sterile plastic sheath. The technique can be executed with two different approaches (“in-plane” or “out-of-plane”), both allowing direct vision of the needle or at least of its tip.^[2] The two approaches require coordination between eye, hand and US probe since it is impossible to look at the US screen and at the puncture site contemporarily.

The image [Figure 1] shows a linear US probe used for CVC placement in at least three-thousand procedures, mostly by resident anesthesiologists. The most damaged areas are located on the short side of the probe (arrows) and on the median point of the long sides (asterisks). The supposed mechanism of damage is the repetitive contact of the sharp needle tip with the softer probe material during “in-plane” approach (arrows) and “out-of-plane” approach (asterisks). We have to assume damage to the sterile plastic sheath casting doubts about sterility and asepsis of the procedure. Caution has to be made every time an US-guided approach is used, and needle contact with the skin has to happen under direct vision, to avoid such complications.

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Figure 1: Ultrasound damaged probe

Conflicts of interest

There are no conflicts of interest.

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