



To avoid these complications, we perform a three-step procedure to place an internal jugular vein catheter under ultrasound guidance” Tampo (2018).

Abstract:

Real-time ultrasound guidance for central venous catheterization has become a standard technique. This technique has been reported to yield high success rates and fewer complications compared with landmark techniques. However, it can be risky when the practitioner does not possess proper knowledge and skills. Lose sight of the needle tip can lead to severe complications such as arterial puncture or pneumothorax. Also, posterior wall penetration of the target vessels must be avoided. Misplacement of the catheter to other vessels can sometimes occur, and may only be discovered after the catheterization procedure. To avoid these complications, we perform a three-step procedure to place an internal jugular vein catheter under ultrasound guidance. The three steps are: (a) advance the needle tip to the internal jugular vein with a short-axis image with an out-of-plane technique, (b) rupture the anterior wall by using a long-axis image with an in-plane technique, and (c) confirm the guidewire position from the internal jugular vein to the brachiocephalic vein using a short-axis image, and a coronal image from the supraclavicular fossa. For safe needle advancement and penetration of the anterior wall of the vein, combined use of short-axis and long-axis images is helpful, and guidewire placement should be confirmed by scanning with the short-axis image and the coronal image.



Three-step procedure for safe internal jugular vein catheterization under ultrasound guidance | 2

Reference:

Tampo, A. (2018) Three-step procedure for safe internal jugular vein catheterization under ultrasound guidance. Journal of Medical Ultrasonics. June 13th. .

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