

## Mobile phone holder as an ultrasound transducer stabilisation device: A novel technique

Sir,

Ultrasonography (USG) is a rapidly emerging medical imaging technique, and in the field of anaesthesiology, it is frequently used for gaining vascular access, arterial cannulation, and regional nerve blocks, etc., which can be done by out-of-plane or in-plane techniques.

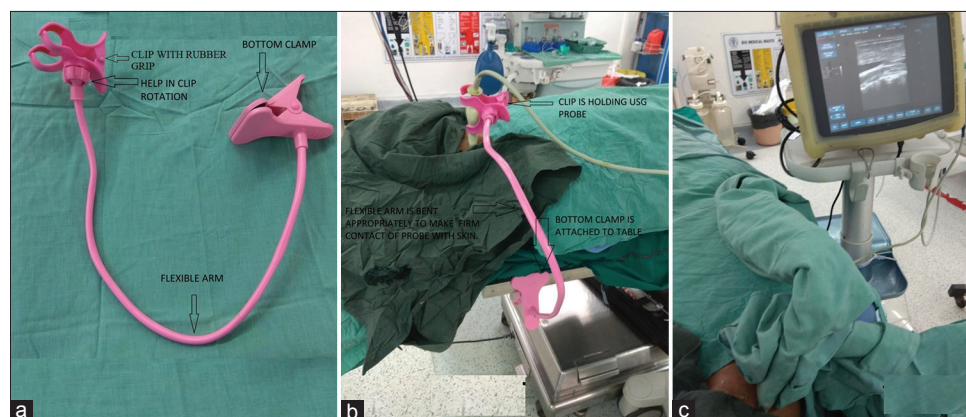
The American Society of Regional Anesthesia and the European Society of Regional Anesthesia jointly issued a guideline for ultrasound-guided nerve blocks suggesting, that for safety reasons, real-time visualization of the needle tip during insertion is vital.<sup>[1]</sup> Failure to visualise the needle before advancement and unintentional probe movement is responsible for nerve block failure.<sup>[2]</sup> Holding the USG probe in one hand and needle insertion by the other requires expertise. It is difficult for the clinician to manipulate USG probe and needle for real-time target visualization and procedure, often requiring a helper for procedure completion.

Ultrasound transducer stabilization devices are available commercially but are costly. We suggest a novel idea to use mobile phone holder for stabilising USG probe. Mobile holder is manufactured by many Indian companies and is easily available in the market at a very low cost. It has a big and strong bottom clamp at one end and a clip with rubber grip which can be

rotated to 360° for holding the mobile phone at the other end. Both the clips are attached by an approximately 50-cm flexible arm made of aluminium-magnesium alloy material. This device can serve as a holder of the USG probe. The flexible arm can freely move in different directions and allow adherence of transducer to the skin of the patient, while allowing the clinician to easily manipulate the probe [Figure 1a and b].

We demonstrate the use of this device for internal jugular vein cannulation in a 30-year-old male posted for left temporal hematoma evacuation. To maintain sterility, the USG probe along with its wire as well as mobile holder device was draped with sterile operation towel separately [Figure 1c]. The bottom clip was mounted to the side of the operating table for stability of device. Horizontal and longitudinal view of internal jugular vein was obtained with USG by manipulating the flexible arm while the USG probe was firmly held by clip at the other end [Figure 1c]. The real-time movement of the needle and guide wire was visualised during the procedure and both hands of the anaesthesiologist were free. Although we used it for internal jugular vein cannulation, it can be used for other vessel cannulation as well as for regional nerve blocks.

Due to wide availability, low cost, and easy handling, this portable, light weight device has the potential to facilitate various ultrasound-guided procedures without the requirement of an assistant. The possible drawback of USG probe holding device could be limited hand eye coordination which is required to see the needle tip. The movement of mobile holder device is not very smooth and fine. Although this is not an ideal device but can be used as a cost-effective alternative to commercially available USG probe



**Figure 1:** (a) Mobile holder and its parts. (b) Mobile Holder is holding ultrasonography probe. (c) Longitudinal view of internal jugular vein after draping of Mobile Holder and ultrasonography probe

holder. Further studies are needed to check the efficacy and consistency of this device in wider settings.

The patient consent form has been obtained.

#### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

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Access this article online	
Quick response code	Website: www.ijaweb.org
	DOI: 10.4103/ija.IJA_375_18

**How to cite this article:** Kaushal A, Bindra A, Singh S. Mobile phone holder as an ultrasound transducer stabilisation device: A novel technique. *Indian J Anaesth* 2018;62:635-6.

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