



## Technical Report

# The use of plastic gallipots for balancing needles in CT-guided procedures

M. Nabi\*, J. Teh

Department of Radiology, Nuffield Orthopaedic Centre, Oxford, UK



## ARTICLE INFORMATION

## Article history:

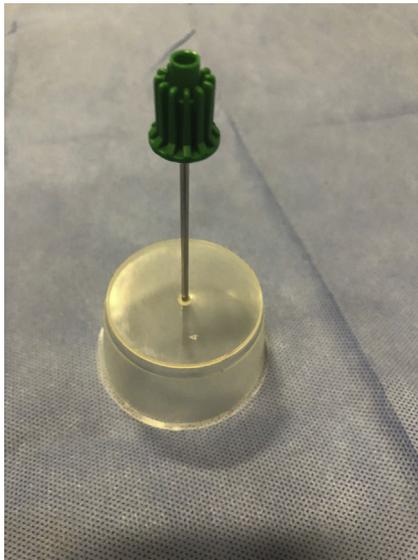
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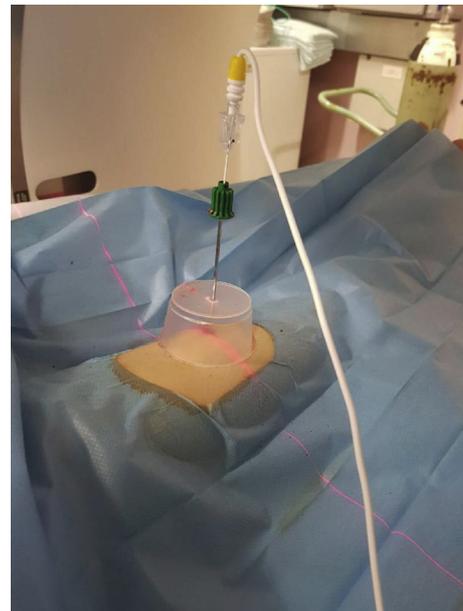
## Introduction

Computed tomography (CT)-guided interventional procedures include injections, aspirations, biopsies, and abla-

tions. When superficial structures are targeted, keeping the needle balanced in the correct position and trajectory when in the CT gantry may prove challenging. This occurs because the tissue into which the needle has passed may not be sufficient to hold and balance the needle in position. This is

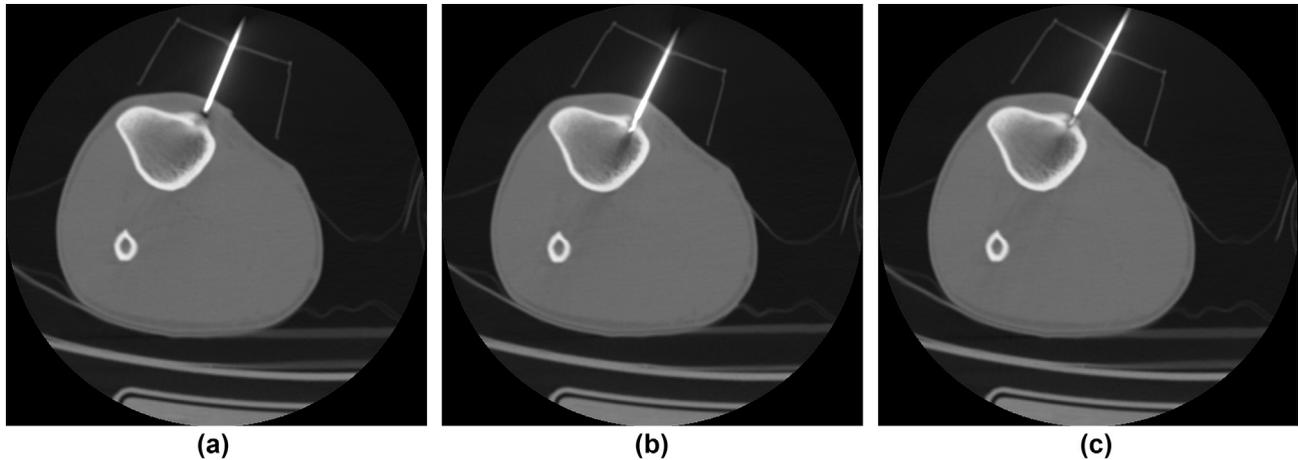


**Figure 1** Preparing the gallipot on the sterile trolley by making a hole to pass the instrument through.



**Figure 2** The gallipot allows the green introducing needle to balance in the superficial tissues of the shin. The white needle with the yellow top is an ablation needle, which has been passed through the green introducer set.

\* Guarantor and correspondent: M. Nabi, Department of Radiology, Nuffield Orthopaedic Centre, Windmill Rd, Oxford OX3 7LD, UK.  
E-mail address: [mohamnabi@hotmail.com](mailto:mohamnabi@hotmail.com) (M. Nabi).



**Figure 3** The sequence of images demonstrates how the ablation needle is advanced into the bone once the introducing needle is in place within the gallipot. (a) The introducing needle tip is *in situ* in the subcutaneous tissues. (b) The drill set is used to penetrate the bone. (c) The ablation probe is placed into the bone.

more prone to occurring when a heavier or larger bore needle is utilised, such as during biopsies.

The authors describe a readily available, cheap, simple, and effective technique for ensuring a stable needle position when superficial structures are being targeted.

## Materials and methods

In the example given, the procedure was an anterior tibial osteoid osteoma radiofrequency ablation under CT guidance.

The skin over the biopsy site is routinely prepared and draped. CT is used to confirm the entry point for the needle, and local anaesthetic is infiltrated at this site. If required a small skin incision is made at the site of entry of the biopsy needle.

A sterile gallipot (small disposable plastic pot) is routinely provided in many interventional packs, and this is used for the procedure. Under aseptic conditions a small hole is made in the centre of the inverted gallipot, using the bone biopsy drill set. A twisting or screwing motion should be performed so as not to crack the plastic. The size of the hole should be sufficient for the biopsy needle to pass through with minimal resistance, but narrow enough to hold the needle steadily in place (Fig 1). The inverted gallipot is then placed on the skin over the entry site, and if necessary, lightly taped into position.

The biopsy needle introducer set is then placed through the gallipot hole with the needle tip embedded just beneath the skin surface. The gallipot should allow the needle to balance without toppling over (Fig 2). CT guidance is then used to precisely position the needle tip (Fig 3).

At the end of the procedure the gallipot is disposed of.

## Discussion

In the author's experience, using a gallipot to balance biopsy needles has been a highly effective technique for targeting superficial structures under CT guidance when the operator is unable to manually balance the needle. In the example shown, the target was a superficial anterior tibial osteoid osteoma; however, any target in the extremities, such as in the hand or foot, may prove challenging, as balancing the needle in the thin soft tissues may be impossible. The technique may also have utility when performing lung or abdominal biopsies. The technique described is best suited for procedures that employ a coaxial needle, which allows the introducing needle not to be moved in the gallipot once in position.

## Conflict of interest

The authors declare no conflict of interest.