Re: Sharma G, Sharma A. Determining the angle and depth of puncture for fluoroscopy-guided percutaneous renal access in the prone position. Indian J Urol 2015;31:38-41

Dear Editor,

We have read the original article by Sharma et al. with great interest. The authors have to be congratulated for highlighting a neglected area of urology. Although establishing a percutaneous tract is essential to the success of percutaneous nephrolithotomy, the techniques to do this have sparsely been described. Most standard endourology textbooks describe two techniques – “bull’s eye” and “triangulation.” Both these techniques rely on advancement of puncture needle under C arm guidance in two planes in an almost hit-and-trial manner. No objective criteria of access angle, depth of puncture, standard landmarks or maneuverability have been described.

However, some points of the article need clarification. The law of sines used by the authors states that: $a \sin A = b \sin B = c \sin C = D$ where $a$, $b$ and $c$ are three side of the triangle, $A$, $B$ and $C$ are the opposite angles and $D$ is the diameter of the triangle’s circumcircle [Figure 1]. As is clearly seen in Figure 1 of the original article, the triangle ABC is placed inside the patient’s body with its apex on the targeted calyx and base on the back. However, in Figure 2 of the original article, the protractor is placed parallel to the patient and is measuring the angle between the horizontal surface (patient’s back) and the puncture needle. To measure the actual angle ABC, the protractor would have to be placed upside down. Alternatively, we can assume that the patient’s back and the line CB are two parallel intersecting

![Figure 1: Triangle with three sides a, b and c and three angles A, B and C](image)

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lines, in which case the angle measured from the horizontal and the intratriangle angle would become corresponding opposite angles and would be roughly equal. As the patient’s back is not a strictly horizontal parallel line, there would be a variation between the two angles in actual measurement. A more accurate value could be obtained by measuring the angle between the needle and the back on the medial aspect and subtracting it from 180° to obtain the desired angle. As the line CB is clearly a straight line, which would be traversed by the puncture needle, this angle would be more representative.

We hope that these points enable the authors to improve the success rate of their technique.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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How to cite this article: Choudhary N, Singh M. Re: Sharma G, Sharma A. Determining the angle and depth of puncture for fluoroscopy-guided percutaneous renal access in the prone position. Indian J Urol 2015;31:38-41. Indian J Urol 2015;31:375-6.