



Biopsy of a Subpleural Lung Mass using VirtuTRAX™

CONSIDERATION FOR USE

In this clinical case, the lesion is approached using a microconvex probe, with a trajectory that is almost parallel to the ultrasound beam. In such a case, the needle is hardly visible with ultrasound alone.

BACKGROUND

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Case:
Lung Mass Biopsy

Featured Product:
VirtuTRAX Instrument Navigator

The VirtuTRAX system displays the exact needle position throughout the approach. Moreover, VirtuTRAX shows the precise location of the tip of the co-axial needle (from where the biopsy sample will be taken) within the mass, which improves the operator's confidence in the procedure. Overall, the use of VirtuTRAX simplifies a procedure which could have been tricky using stand-alone ultrasound guidance.

REQUIRED EQUIPMENT FOR EXAMINATION

- Toshiba Aplio 500 Platinum ultrasound system
- Toshiba Smart Fusion with Smart Navigation
- CIVCO VirtuTRAX Instrument Navigator

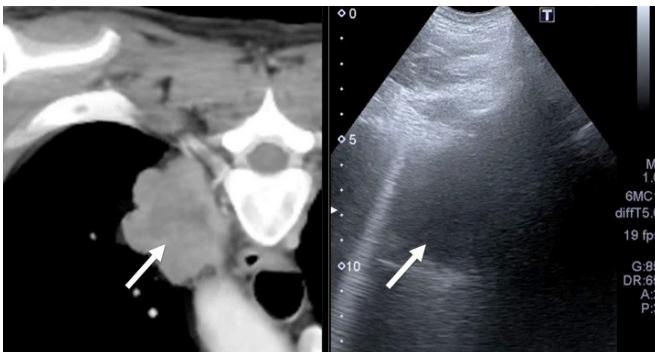


Figure 1

Fusion imaging helps visualize and identify the lung mass (noted with the white arrows).

Figure 2

The length of the needle is calibrated. The VirtuTRAX system is fixed to the biopsy needle. Calibration is performed in close proximity to the electromagnetic field generator.





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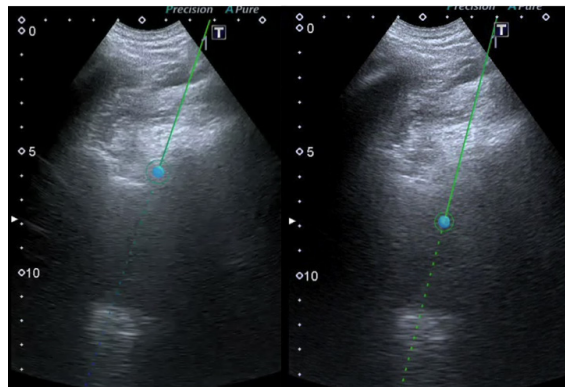


Figure 3

Ultrasound software demonstrates biopsy needle advancement using the VirtuTRAX guidance system. The system clearly shows when the needle is located inside the lung mass.

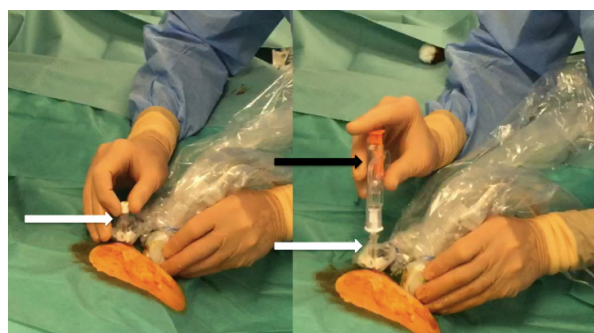


Figure 4

The semi-automatic biopsy needle (black arrow) is introduced within the co-axial system (white arrows) and is advanced toward the target.

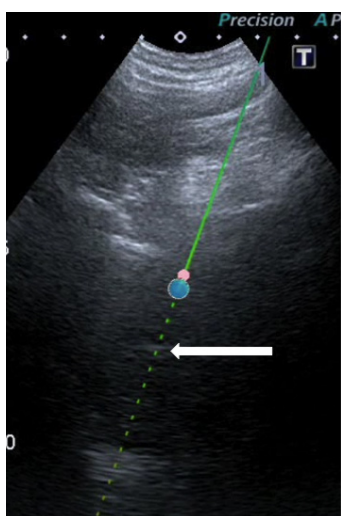


Figure 5

VirtuTRAX shows the tip of the co-axial system. The tip of the semi-automatic biopsy needle is seen 2cm deeper in the axis of the VirtuTRAX trajectory (arrow). The biopsy is correctly targeted.