

# Electromagnetically Tracked Tissue Ablation Device

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## Technology description

### Summary

Available for licensing, development, manufacturing and commercial distribution is an ablation device coupled with electromagnetic tracking for procedural navigation. Minimally invasive interventions exemplified by devices like this are rapidly increasing in popularity. This device improves accuracy and may improve outcomes by using pre-procedural imaging (like CT, MRI, PET) during procedures, to assist with guidance of ablation probes to a target that shows up on pre-procedural imaging. This allows use of exquisite diagnostic imaging during interventional procedures, that otherwise would not be available. This device is similar to having a miniaturized version of an automobile GPS (global positioning system) on the tip of a small needle. Image guided surgery is not truly "image guided" without being able to use all pre-operative imaging during the procedure. One example allows accurate identification and treatment of a tumor that is only briefly seen on CT scan, then disappears, or is only seen with PET. Tissue burns during thermal ablation, releasing gas that obscures the real-time ultrasound image. This device allows use of CT and other enhanced imaging during repositioning of ablation needles, which is the most difficult part of the procedure.

One design can include a guidance needle and grid to direct the ablation needle. Another design includes a plate with an aperture and button coupled to the plate wherein the plate has a beveled surface and a slideable hub coupled to the plate by a rod. An added advantage is an inclusion of a plurality of guide apertures to focus the needle. The needle is inserted into and guided by one of the guide apertures of the grid as the needle is introduced into a body of a patient to a target site. The device is useful for therapy or for biopsy and includes a button defining an aperture, a hub defining an aperture being slideably coupled to the button by a rod, and a lock mechanism configured to lock the hub relative to the button on the rod. The system also includes a removable probe inserted through the hub and the button and a miniature magnetically trackable sensor coil that fits inside a 22 Gauge needle. A pictorial representation of the device is shown here.

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