**Covidien Summary: Clinical Paper**

Covidien provides the following synopsis of an independent clinical publication utilizing the Emprint™ Ablation System with Thermosphere™ Technology and Planning Software

**TITLE** The first clinical application of planning software for laparoscopic microwave thermosphere ablation of malignant liver tumours

**AUTHOR** Berber E. (Departments of General and Endocrine Surgery, Cleveland Clinic, Cleveland, Ohio, USA)

**JOURNAL** HPB (Oxford)  **Pub Date:** July 2015

**KEY FINDINGS:**

- Pilot group of 5 patients with 9 metastatic liver tumors with a mean 2 tumors per patient (range 1-4) and measuring 1.9±0.4cm (range 0.9-4.4 cm) were treated. Concerning lesion location, 7 of 9 were near a >4 mm blood vessel and 6 of 9 had a superficial as opposed to a central location.
- Emprint™ Procedure Planning Application Software was used to calculate the desired ablation zone for each tumor and inform antenna placement and ablation parameters.
- All ablations were done at 100W; mean ablation time per lesion was 6.4±1.2 min (range 2.5–10 min).
- 100% tumor destruction seen on 2-week CT scans with no residual lesions.
- No complications or mortality.
- Author concludes that planning software was useful to plan ablation parameters and needle placement before going into the OR, resulting in simplified ablation planning and the increased efficiency of the procedure. There was no need to leave the OR for unexpected intra-operative decision making, and the software was validated by demonstrating complete ablation in all tumors treated, without any complications.
- A prospective study is being conducted to further analyze the size of the ablation zones achieved in comparison to those predicted by the software in a larger number of patients.

**STUDY DESIGN:**

- Prospective, single-center, single-arm feasibility study of 5 patients with 9 malignant liver tumors treated with the Emprint™ Ablation System with Thermosphere™ Technology using the Emprint™ Procedure Planning Software between December 2014 and January 2015. The patient’s triphasic CT scans were loaded into the software, and the lesions were individually selected using target markers around the tumours in the axial, coronal, and sagittal planes, and a three-dimensional image of each lesion was created. Next a projected ablation zone was mapped around each tumor. Based on the predicted zone of ablation the software calculated the ablation diameter, antenna insertion depth, and minimum and maximum margin covered around each tumour. By choosing the power setting, the software calculated the time required to create that ablation zone. (Level 4) Independent Study

**THIS CONCLUDES THE CLINICAL SYNOPSIS OF THIS PUBLICATION**