

Medtronic

Greater coverage. Fewer antennas.

The Emprint™ HP ablation generator gives you more volume,¹ with a single antenna.



The Emprint™ HP ablation generator can achieve complete tumor coverage while minimizing collateral tissue damage – all with a single antenna.⁶

Using our patented Thermosphere™ technology, the Emprint™ HP ablation generator enables a minimally invasive procedure with:

- Large ablations, with up to 40% more volume compared to the original Emprint™ ablation system¹
- Proven spherical shape,⁷⁻¹³ giving you flexibility in antenna placement approach⁶
- Consistent ablative margins greater than 5mm^{6†}
- Scalability, allowing you to create both small and large ablation zones¹



Achieving complete tumor coverage is critical to successful management of patients with non-resectable hepatic tumors²⁻⁵ – so is preserving healthy liver.

† Independent study was performed using the 100W Emprint™ ablation generator. A total of 56 tumors ablated with the Emprint™ ablation system had a median size of 1.4 cm (range 0.4 to 3.7 cm).

Complete tumor coverage simplified.



Product code	Description
CAGENHP	Emprint™ HP ablation generator
CARTHP	Emprint™ HP ablation cart
CA15L2	Emprint™ short percutaneous ablation antenna with Thermosphere™ technology
CA20L2	Emprint™ standard percutaneous ablation antenna with Thermosphere™ technology
CA30L2	Emprint™ long percutaneous ablation antenna with Thermosphere™ technology
CA190RC1	Emprint™ ablation reusable cable
CAPUMP1	Emprint™ ablation pump
RFASW	Ablation footswitch
RTP20	Ablation remote temperature probe

Reference:

1. Versus the Emprint™ ablation generator. Based on internal testing data, RE00205202 Rev B Emprint™ Performance Report, dated May 2019 (Data on file).
2. Shady, W., Petre, E. N., Gonen, M., Erinjeri, J. P., Brown, K. T., Covey, A. M., ... Sofocleous, C. T. (2016). Percutaneous Radiofrequency Ablation of Colorectal Cancer Liver Metastases: Factors Affecting Outcomes--A 10-year Experience at a Single Center. *Radiology*, 278(2), 601-611.
3. Wang X, Sofocleous CT, Erinjeri JP, et al. Margin size is an independent predictor of local tumor progression after ablation of colon cancer liver metastases. *Cardiovasc Intervent Radiol*. 2013;36(1):166-175.
4. Liu CH, Arellano RS, Uppot RN, et al. Radiofrequency ablation of hepatic tumours: effect of post-ablation margin on local tumour progression. *Eur Radiol*. 2010;20(4):877-885.
5. Nakazawa T, Kokubu S, Sibuya A, et al. Radiofrequency ablation of hepatocellular carcinoma: correlation between local tumor progression after ablation and ablative margin. *AJR Am J Roentgenol*. 2007;188:480-488.
6. Vogl TJ et al. Evaluation of microwave ablation of liver malignancy with enabled constant spatial energy control to achieve a predictable spherical ablation zone. *Int J Hyperthermia* 2018 Jun;34(4):492-500.
7. Imajo K. et al. New microwave ablation system for unresectable liver tumors that forms large, spherical ablation zones. *J Gastroenterol Hepatol*. 2018;33(12):2007-2014.
8. Zaidi, N., Okoh, A., Yigitbas, H., Yazici, P., Ali, N., & Berber, E. (2016). Laparoscopic microwave thermosphere ablation of malignant liver tumors: An analysis of 53 cases. *J Surg Oncol*, 113(2), 130-134. doi:10.1002/jso.24127.
9. Based on internal testing, R0043973 In vivo Performance Testing of the Emprint™ Microwave Ablation System in a Porcine Model. Dated November 2013 (Data on file).
10. Based on internal testing, R0054596 Emprint MWA System with CT Imaging in a Porcine Model. Dated April 2016 (Data on file).
11. Howk K, L. C., Peterson D, Cafaro A. (2015). Consistent and Predictable Spherical Ablation Shape in Both Liver and Lung: Performance of the Emprint Ablation System with Thermosphere Technology in an In Vivo Porcine Model [Poster 129]. *J Vasc Interv Radiol* 2015;26:e89-90.
12. Lerardi, A. M., Mangano, A., Floridi, C., Dionigi, G., Biondi, A., Duka, E., ... Carrafiello, G. (2015). A new system of microwave ablation at 2450 MHz: preliminary experience. *Updates Surg*, 67(1), 39-45.
13. De Cobelli F, Marra P, Ratti F, Ambrosi A, Colombo M, Damascelli A, Sallemi C, Gusmini S, Salvioni M, Diana P, Cipriani F, Venturini M, Aldighetti L, Del Maschio A. Microwave ablation of liver malignancies: comparison of effects and early outcomes of percutaneous and intraoperative approaches with different liver conditions. *Med Oncol* (2017) 34:49.