

Medtronic

Expand your treatment options

**Manufacturer ablation zone
reference values explained**



Providing you usable information

The Emprint™ ablation system helps you eradicate your patients' tumors and preserve more of their healthy parenchyma¹⁻³ – because their future depends on both. That's why we strive to provide you with the most clinically relevant ablation zone reference values.

Industry uses ex vivo tissue models

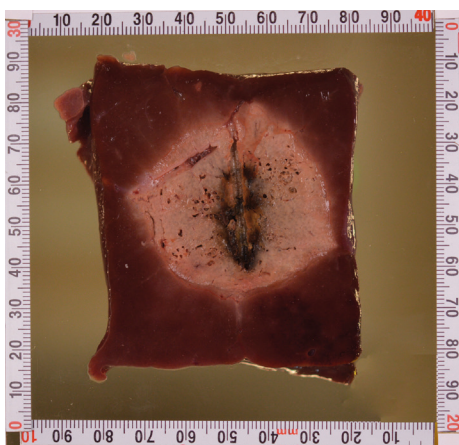
Standards do not exist to align manufacturers on ablation performance modeling for thermal ablation devices. With no common standard, it's challenging to compare reported performance between manufacturers.

As the tissue model temperature increases, ablation zones get larger.⁴

Emprint™ ablation system performance across varied tissue model temperatures

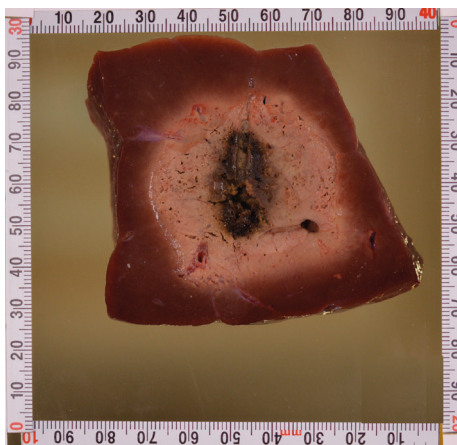
(100 W, 10 min in bovine liver model)^{4,5}

17° C
n = 6



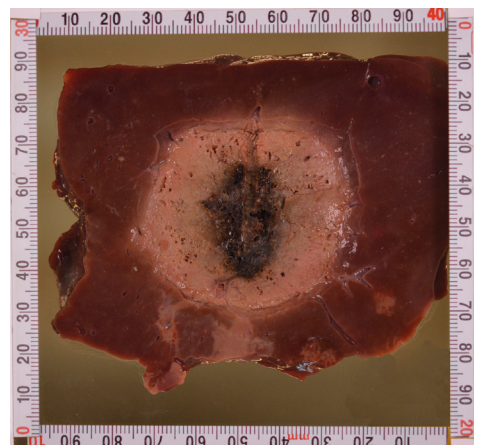
W = 4.2 cm
H = 4.2 cm

25° C
n = 6



W = 4.7 cm
H = 4.5 cm

35° C
n = 6



W = 5.0 cm
H = 4.8 cm

Model temperature has a significant effect on the size of ablation zone created (P < 0.05 for all tests⁴).

DISCLAIMER: Animal data is not necessarily indicative of human clinical outcomes.

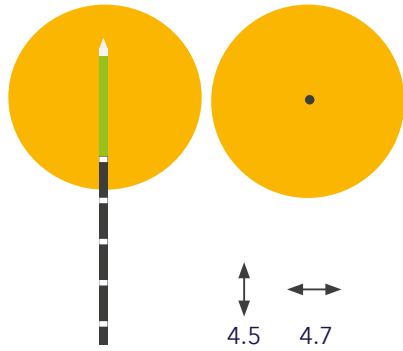
Normalizing performance across systems

Because there is no standard model, manufacturers may choose to use from any temperature bovine liver model to create ablation zone reference charts. This makes comparing performance across systems difficult. We generated new data with the intention to make it clearer.

25° C

Emprint™
ablation
system⁴

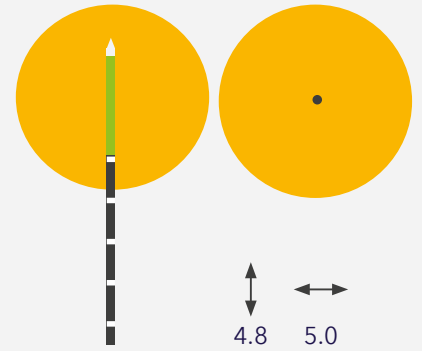
Single probe
100 W, 10 min



35° C

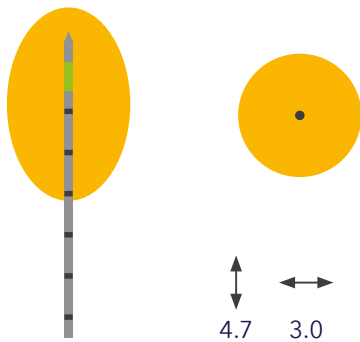
Emprint™
ablation
system⁴

Single probe
100 W, 10 min



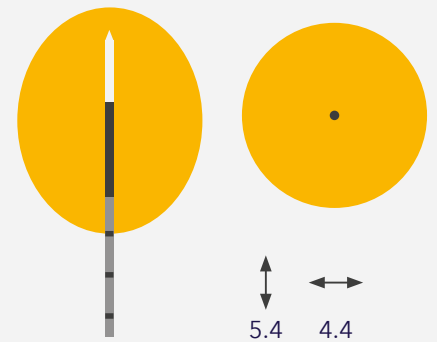
Certus 140™
ablation
probes^{6,7}

Single probe
65 W, 10 min

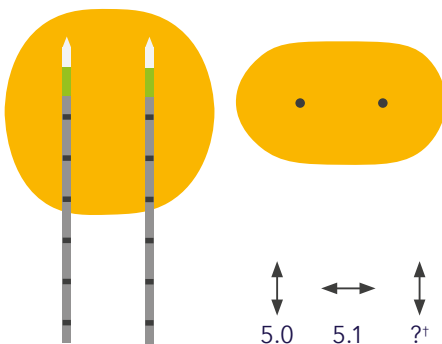


Solero
ablation
system⁸

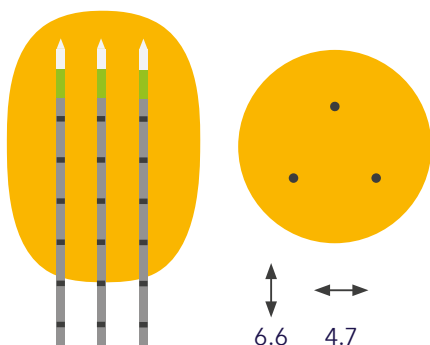
Single probe
140 W, 6 min



Double probe
65 W, 10 min



Triple probe
65 W, 10 min



Current MWA manufacturer
model temperatures^{7,9}

	17° C	25° C	35° C
Medtronic	●		
J&J		●	
Angiodynamics			●
HS Medical		●	

DISCLAIMER: Animal data is not necessarily indicative of human clinical outcomes.

†Dimension not provided by manufacturer

Defining clinically relevant models

Emprint™ ablation system proudly provides both in vivo and ex vivo data in our instructions for use.^{5,6,11}

We know being predictable matters. By producing predictable, spherical ablation zones you can preserve more healthy tissue and achieve predictable margins.^{2,10}

In vivo

- Live porcine liver tissue
- Preclinical model simulates in situ organ perfusion



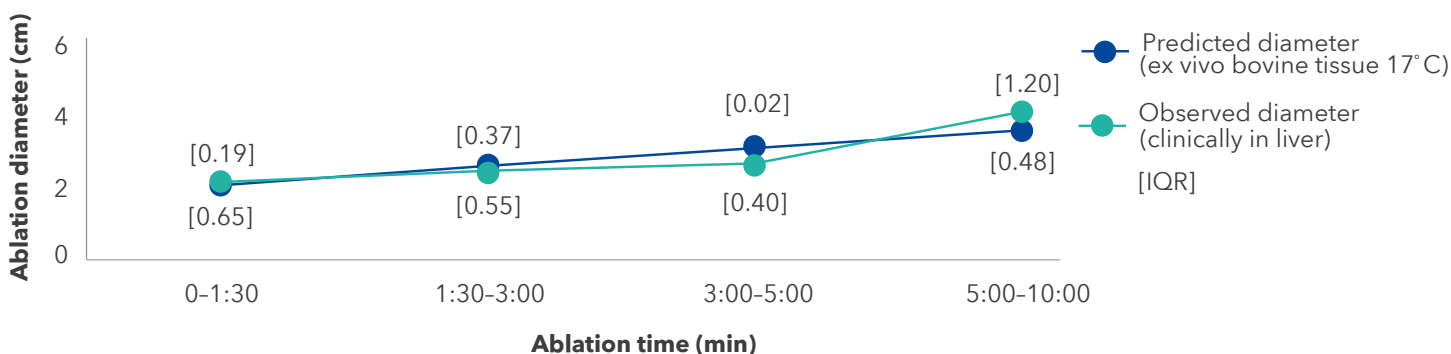
Ex vivo

- Bovine tissue, chilled to 17° C
- Chilled tissue calibrates ablation performance to live models^{12,13}

The difference is proven

Using a clinically relevant model helps you see the results you expect.⁴

Comparison of ablation zone diameters: prediction versus clinical observation at 100 W10



References

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