

KEY Laser

KEY Laser
Center for Regenerative Cosmetic Medicine

WELCOME TO KEY LASER
THE CENTER FOR COSMETIC REGENERATIVE MEDICINE



Slimming with **THERM**I250™

DOUGLAS KEY, MD

KEY LASER CENTER FOR COSMETIC REGENERATIVE MEDICINE

Portland, Oregon, USA



INTRODUCTION

Why Slimming?

Eliminating fat cells or tightening structure?

We may be doing both with Thermi250TM.



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JOURNAL OF DRUGS IN DERMATOLOGY

JDD

DRUGS • DEVICES • METHODS

A PRELIMINARY STUDY OF A
TRANSDERMAL RADIOFREQUENCY
DEVICE FOR BODY SLIMMING

Douglas J. Key MD

J Drugs in Dermatol. 2015; 14(11):1272-1278.



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Specific Absorption Rate Equation

$$SAR = \frac{\sigma}{\rho} |E|^2 = \frac{1}{\sigma \rho} |J|^2$$

Science

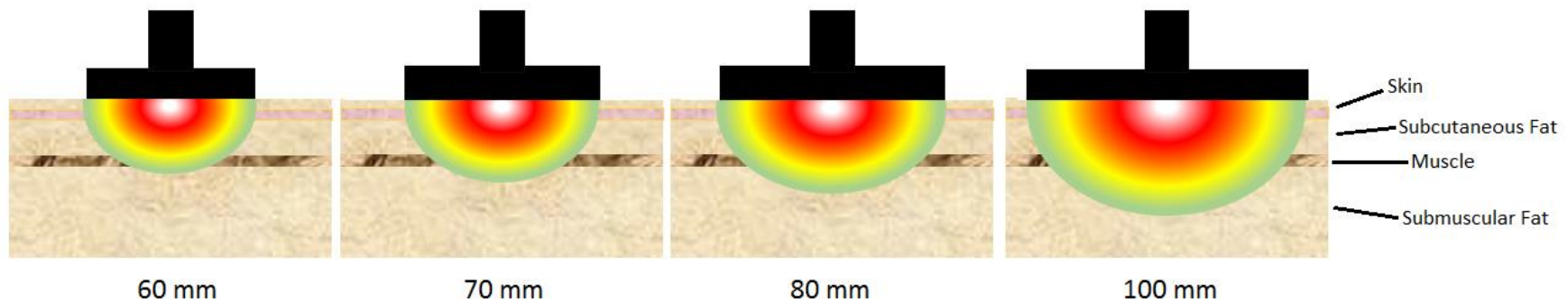


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The Larger the Transducer, The Greater the Depth

Thermi250 Thermal Profiles for Cellulite/Body Slimming Capacitive Monopolar Electrodes



**100mm Electrode Depth Of Sustained Heating
=
5 Centimeters Depth**

“Rough” Formula



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Controversies

Question: With the 100mm transducer, is there sufficient depth for thermal effect to reduce visceral fat?

A Preliminary Study Of A Transdermal Radiofrequency Device For Body Slimming*

Transdermal RF Body Slimming Photographic Review

Transdermal RF for Body Slimming Treatment Results Data Table

Pt.	Examiner 1 Scoring				Examiner 2 Scoring				Settings and Other Variables			
	Correct Order?	A	B	Variance	Correct Order?	A	B	Variance	Zones Treated	Default Temp (°C)	Tx Time (Min)	FU
NW	Y	3.5	2.5	1	Y	3	2	1	2	44	10	6
SN	Y	2	1.5	0.5	Y	1.5	1	0.5	2	44-45	10	2
PW	Y	2.5	1	1.5	Y	2	1	1	1	45	15	4
DM	Y	2.5	2	0.5	Y	2	1.5	0.5	2	43	8	2
SG	Y	2	1	1	Y	1.5	1	0.5	1	45	15	2
PM	Y	2	1.5	0.5	Y	1.5	1	0.5	1	45	10	4
KW	Y	3	2.5	0.5	Y	2	1	1	1	45	15	2
KC	Y	3.5	2	1.5	Y	2.5	1	1.5	2	45	15	3
LB	Y	3.5	3	0.5	Y	2.5	1.5	1	2	44	10	6
SO	Y	1.5	1.5	0	Y	1.5	1	0.5	1	43	10	4
Mean Variance:				0.75	Mean Variance:				0.8			
RB	N	1.5	1	0.5	N	1.5	1	0.5	1	45	15	3
JG	N	1.5	1	0.5	Y	1.5	1	0.5	1	44	10	3
AZ	N	3	1.5	1.5	N	2	1	1	1	45	10	2
TC	N	1.5	1.5	0	Y	1.5	1	0.5	1	45	15	2

A = Score before Treatment; B = Score at follow-up evaluation; FU = follow-up (mo.);

mean variance values are listed for the patient subset of 10 for which both examiners successfully ordered before and after photographs.

* **Journal Of Drugs In Dermatology, November 2015**



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A Preliminary Study Of A Transdermal Radiofrequency Device For Body Slimming*

Patient Survey Data with Average Variance

Patient Survey Data Table with Average Variance				
Subj.	Average Variance	Perceived Tightening	Slimming Observed?	Recommend to a Friend?
NW	2	3	Y	Y
SN	2	2	N	Y
PW	1	4	N	Y
DM	2	1	N	N
SG	1	3	N	Y
PM	1	2	N	Y
KW	1	4	N	Y
KC	2	1	N	N
LB	2	1	N	N
SO	1	4	Y	Y
RB	1	0	N	N
JG	1	1	N	N
AZ	1	0	N	N
TC	1	4	Y	Y

Average variance is based on a scale of 0 to 4 in increments of 0.5;

Perceived Tightening was rated by patients on a 0 to 4 scale in which 0 was the least and 4 was the most tightening.

* **Journal Of Drugs In Dermatology, November 2015**

Patient survey results included an average tightening of 2.14 points on a 0 to 4 scale (0 lowest, 4 highest). Of the 14 subjects, 8 said they'd recommend treatment to a friend.



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A Preliminary Study Of A Transdermal Radiofrequency Device For Body Slimming*

Scoring for Successful Results Subset When Treated With Transdermal RF

Scoring for Successful Result Patient Subset When Treated With Transdermal RF

Subj.	Examiner 1 Scoring			Examiner 2 Scoring			FU (mo)	Tightening Score
	A	B	Variance	A	B	Variance		
NW	3.5	2.5	1	3	2	1	6	3
SN	2	1.5	0.5	1.5	1	0.5	2	2
PW	2.5	1	1.5	2	1	1	4	4
DM	2.5	2	0.5	2	1.5	0.5	2	1
SG	2	1	1	1.5	1	0.5	2	3
PM	2	1.5	0.5	1.5	1	0.5	4	2
KW	3	2.5	0.5	2	1	1	2	4
KC	3.5	2	1.5	2.5	1	1.5	3	1
LB	3.5	3	0.5	2.5	1.5	1	6	1
SO	1.5	1.5	0	1.5	1	0.5	4	4
	$p = 0.0039$ (s)		Median = .50 (0.54)*	$p = 0.0020$ (s)		Median = 0.75 (0.50)*	Median = 3.5 (2.17)*	Mean 2.50 ± 1.27 (SD)

A = Score before Treatment; B = Score at follow-up evaluation; FU = follow-up (mo.); SD = standard deviation.

*Interquartile range, a measure of statistical dispersion, or the difference between the upper and lower quartiles.

* Journal Of Drugs In Dermatology, November 2015



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Large Dimensional Transducer Transdermal Skin Tightening and Slimming

Thermi250 4 Treatments Abdomen



1 Month Post Treatment



Image is exclusive to Douglas Key, MD
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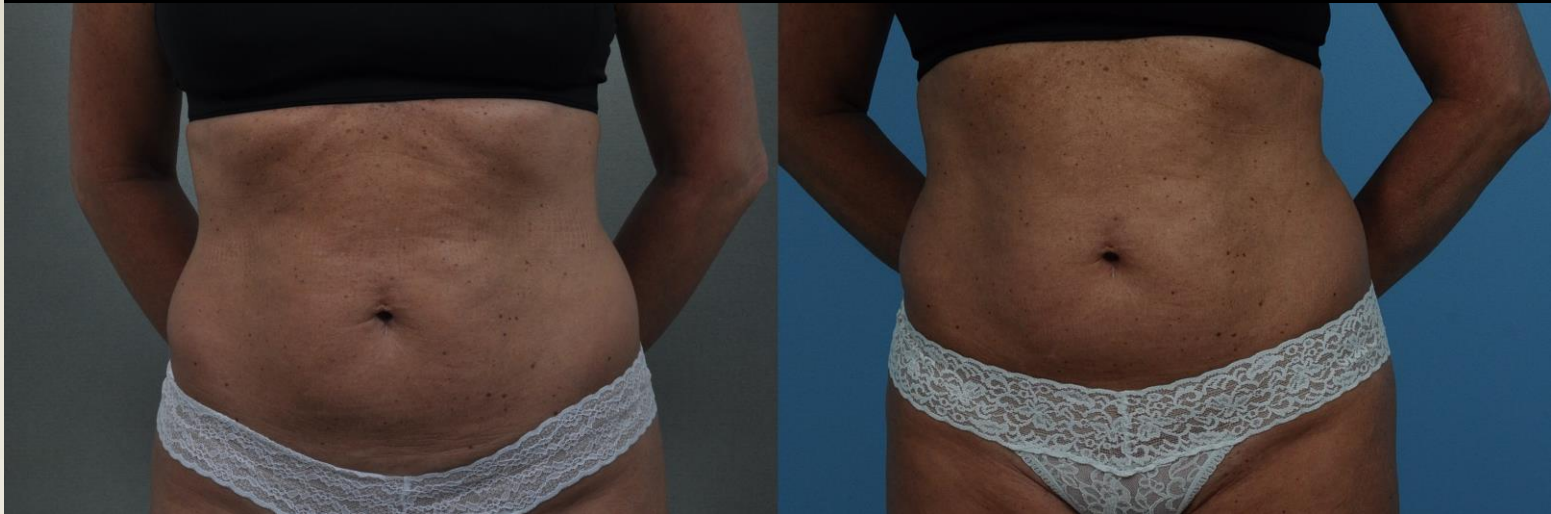


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Large Dimensional Transducer Transdermal Skin Tightening and Slimming

Results Improve The Longer You Wait

Thermi250 4 Treatments Abdomen



8 Months Post Treatment



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Thermi250 4 Treatments Abdomen



4 Months Post Treatment

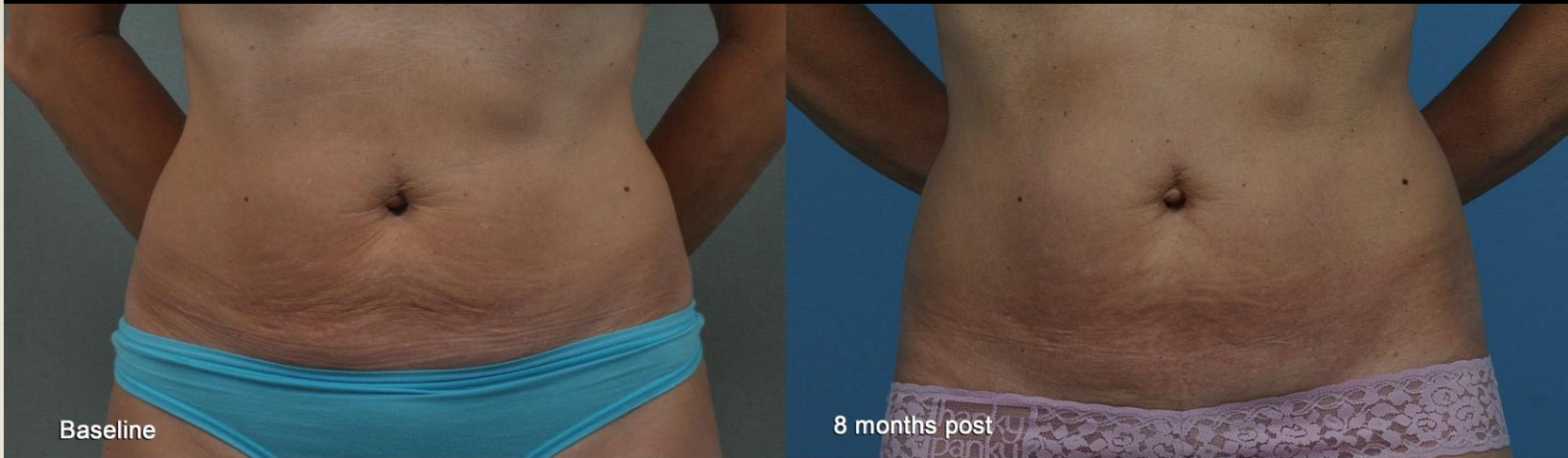


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8 Months Post Treatment



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10 Months Post Treatment



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Method of Treatment

Zone Size

- **Zone size should be the size of an 8x10 piece of paper or 2 hand spans.**
- **Multiple zones can be treated during the same treatment time.**



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Method of Treatment

Medium Used

Parker Scan[®] Ultrasound Gel

- **Pre-warmed to a temp of 41.1**
- **A very thin layer is best**



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Method of Treatment

Target Temperature

Target temperature is 45C

At 45C there can be occasions where the skin can transiently exceed the preset guidelines.

There is concern that with a preset of anything higher (i.e. 47C) skin temperature may exceed the preset with the possibility greater risk of injury.



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Method of Treatment

Treatment time

- **Treatment should be a total of 15 minutes.**
 - *This includes a 1 minute warm up using pre-warmed gel.**
 - *Skin temperature reaches target temperature quickly.**
- **Slow, continuous circular motion.**
- **If patient feels a “hot spot” speed up circular motion.**



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Controversies

Treatment at target temperature in excess of 45C may need to be explored for the end points to improve clinical outcomes and shorten treatment times.

Method of Treatment

Number of Treatments

We would suggest 4 to 6 treatments but this is patient dependent.

With extended observation beyond 3 months... continued improvement and maximum benefits can be seen for 6 and 9 months.

Method of Treatment

Electrode Choice

Abdomen: 100mm or 80mm

Thigh: 100mm, 80mm or 70mm



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THERM|250™

Why not treat it all?

- **Abdomen for slimming**
- **Arms for tightening**
- **Legs for cellulite**
- **Face and Neck for tightening & lift**
- **Breast for tightening & lift**
- **Bra Fat for slimming**



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THERMI250™

“ThermiRF is proving to be the most versatile and effective thermal energy platform that I have ever used.”

-Douglas Key, MD





THERMI250™

New Edge...

**Oculo-Plastik eye shields
for ThermiSmooth Eyes**



[www. oculoplastik.com](http://www.oculoplastik.com)