

Clinical Pilot Study

NARL[®] [517]

Impact of low frequency ultra sound treatment NARL 517 on abdomen access.

Nick De Poot , Physiotherapist , Antwerp, Oct – Nov 2007
Institute Hasselt , Kuringerstwg 337, 3500 Hasselt.

1 Introduction

It is well known that overall obesity is a risk factor for diabetes and heart disease. Not all obese people develop these diseases, of course. Obese people who have more abdominal fat (an apple shape) are at a higher risk than people who store excess fat in their hips and thighs (a pear shape).

Abdominal fat is associated with metabolic syndrome, a cluster of symptoms that increases the risk for heart disease and diabetes. The syndrome is diagnosed when someone has at least three of the following: abdominal obesity, high triglycerides, low levels of high-density lipoprotein ("good") cholesterol, high blood pressure and increased levels of sugar in the blood.

Reducing the size of abdominal fat cells -- which are a risk factor for diabetes and heart disease -- takes more than cutting calories.

2 Aim of the study

NARL 517 by MIWA japan, is a low frequency ultra sound treatment. The treatment of 10 minutes doubles the local amount fatty acids in the blood level. To eliminate the free fatty acids a moderate activity of 20 minutes is advised.

Therefore is the goal of the study to find out of the combination of a 10 minute NARL 517 treatment combined with a 20 minute Power Plate[®] acceleration training is significant beneficiary to lower the abdominal access



3 Protocol

3.1 Group

18 healthy people
17 women
1 men

Minimum abdomen access
Women 80 cm
Men 90 cm

Total 12 session : 3 session/week

3.2 Measurements

Before every session abdomen access in cm

4cm under umbilical point
umbilical point
4cm above umbilical Point

No hypo calorie diet, slimming crèmes allowed.

3.3 Treatment

10 minutes NARL 517 followed by 20 minutes Power Plate®

3.4 Positioning of the NARL517 pads

Alternating by session

- 1 4 pads around the umbilical point



- 2 2 pads on the flanks, 2 pads next to the umbilical point

3.5 Power Plate® program



Zone: **Fit en slank niveau 2**

Naam: _____

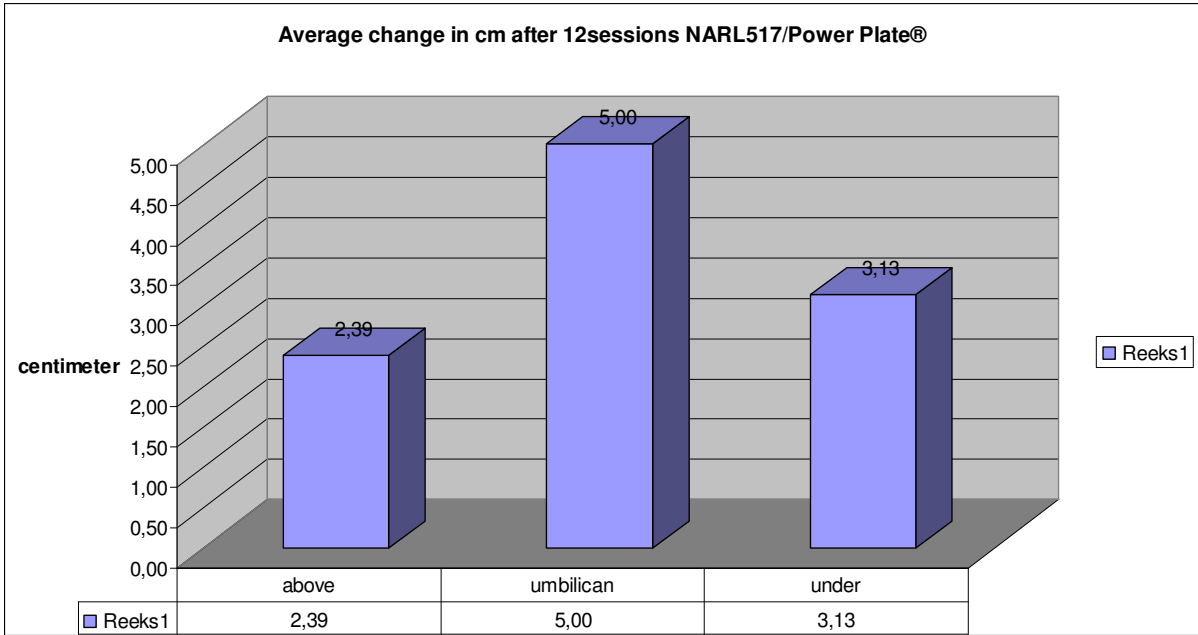
Doel: metabolisme verhogen , tonifiëren van het lichaam

Training programma: _____

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4. Results

name	measure points	1	2	3	4	5	6	7	8	9	10	11	12	difference post
De vos nicole	above	71	71	72	71	73	73	73	74	73	73	72,5	72	1
	umbilican	82	81	81	81	81	84	84	82	81	81	82	77	-5
	under	94	93	93	93	95	92	92,5	95	93	93	93	92	-2
Quintiens Karine	above	83	85	83	81	81	81	81	80	80	80	79	80	-3
	umbilican	94	91,5	92	89	89	90	89	87	87	86	86	88	-6
	under	96	95	93,5	92,5	93	93	92	93	93	91,5	92	92	-4
Bergmans Diane	above	77	77,5	78	79,5	79	79	77,5	79	80	75,5	79	76	-1
	umbilican	88	86,4		83,5	85	85	85	82,5	89	86	83,5	82	-6
	under	95,5	92,5	94	99,5	94,5	97,5	91	92	93	89	86	87	-8,5
Theunis Tine	above	76,5	75,5	76	75,2	74,6	74	74	74	74	76,5	74	75	-1,5
	umbilican	86	83	88	87	86	84	84	84	83	86	84,5	84,5	-1,5
	under	92	90	91	90,5	89,5	88	88	89	89	89,5	86	89,5	-2,5
Baree Annick	above	78	79	76	78	78	76	75,2	75,2	74,5	75,2	74	76,3	-1,7
	umbilican	87,7	87	86,5	82,7	82	81	82	79,5	80	79,5	79	78,5	-9,2
	under	93,7	93	94	94	95	93	91	92	91	88	88	90	-3,7
Vogels Rachele	above	83,5	84	83	82	81	82	82	81	82	82	81	82	-1,5
	umbilican	93,5	91	93,5	90	91	89,5	89	88	91	89	89	90	-3,5
	under	95	94	95	92	92	93	93	93	94	93	94	92,5	-2,5
Hendrickx Mieke	above	64	63	62	62	63	63,5	63	63	63	62	62	62	-2
	umbilican	66	66	66	63	64	64	64,5	64,5	64	64	64	64	-2
	under	82	84	83	83	83	83	81,5	81	81	82	80,5	80,5	-1,5
Panis Viviane	boven navel	76,5	76,3	80	76,5	75	78	77	76	79	78	77	76	-0,5
	umbilican	84	84	87	83	83	85	82,5	82	84	85	83	82	-2
	under	92,3	90,4	92,3	90	90	91	88	87	92	93,5	90	90	-2,3
Slingers Suzy	boven navel	77	74,5	77	77	74	75	71,5	74	74	73	72	71	-6
	umbilican	84	85	84,2	83	85,6	82	81,5	79	80	80	79	79	-5
	under	88	89,5	88	88	90,5	89	87	86,5	85	86	85	84	-4
Bex Ria	boven navel	82	81,5	81	82	80,4	81	80	79,8	80,5	80,5	81	81	-1
	umbilican	86,8	86,3	85	85,5	85	85	85,5	84,5	84	84,5	85,4	82	-4,8
	under	90	89	88,5	89,5	89,5	89	90	90	90,5	87,5	90	89	-1
Venken Laura	above	88	86	86	84	83	84	85	84,5	83	83	83	83	-5
	umbilican	97	96	94	93	93	95	99	96	92	91	90	90	-7
	under	109	109	107,5	104	104	106	107,5	106	103	104	103	103	-6
Vandijck Viviane	above	90	89	88	88	88	88	88	87,5	90	89	89	88,5	-1,5
	umbilican	97	97	96	96	96	95	95	94	98	97	93	94	-3
	under	106	104	102	103	103	102	102	101,5	104	101,5	100,5	101,5	-4,5
Luykx Petra	above	87,5	87	87	87	85,5	85,5	85,5	84,5	86	85	85	87	-0,5
	umbilican	100	100	100	98	98,5	98	97	95,5	93,5	92	93,5	95	-5
	under	104,5	104	102	102,5	102,5	102	101	101,5	103	100,5	102	103,2	-1,3
Verjans Fabienne	above	71	71	71	71	71	70	70	69,5	69,5	69,3	72	68,2	-2,8
	umbilican	79,5	79,5	79,5	74,5	77,5	73	76	75	74,5	74	71	71	-8,5
	under	83	83	83	83	85	84,3	82,5	82,5	83	82	83,5	80,7	-2,3
Ballet Ria	above	81	82	81	79	80	80,5	79,4	79	78,3	77	77	78	-3
	umbilican	84	85	83,5	83	82	83	82	82	80	80	82	82	-2
	under	85,3	86	87	87	87	85,5	87	87	87	87	88	88	2,7
Aerts Kristien	above	68	68	68	69	69	68	68	67	67	66	65	65	-3
	umbilican	78	72	72	70	70,5	70,5	69	70	70	69	69	67,5	-10,5
	under	83	77	82	80	77,5	79	78	78	78	77	77	77	-6
Wuyts Eric	above	94	92	92	92	91,5	91,5	91,5	91	90,5	89	89	90	-4
	umbilican	98,5	95	95	95	94	94	96	94,5	93,5	93	95	94,5	-4
	under	97	95,5	93,5	93	95,5	93,5	92,5	92	93	93	94	95	-2
Lowette Ann	above	88	86	84	84	84	83	84	84	84	83	83	82	-6
	umbilican	90	90	90	90	90	88	88	88	88	87	87	85	-5
	under	102	100	100	100	99	100	99	100	100	98	98	97	-5

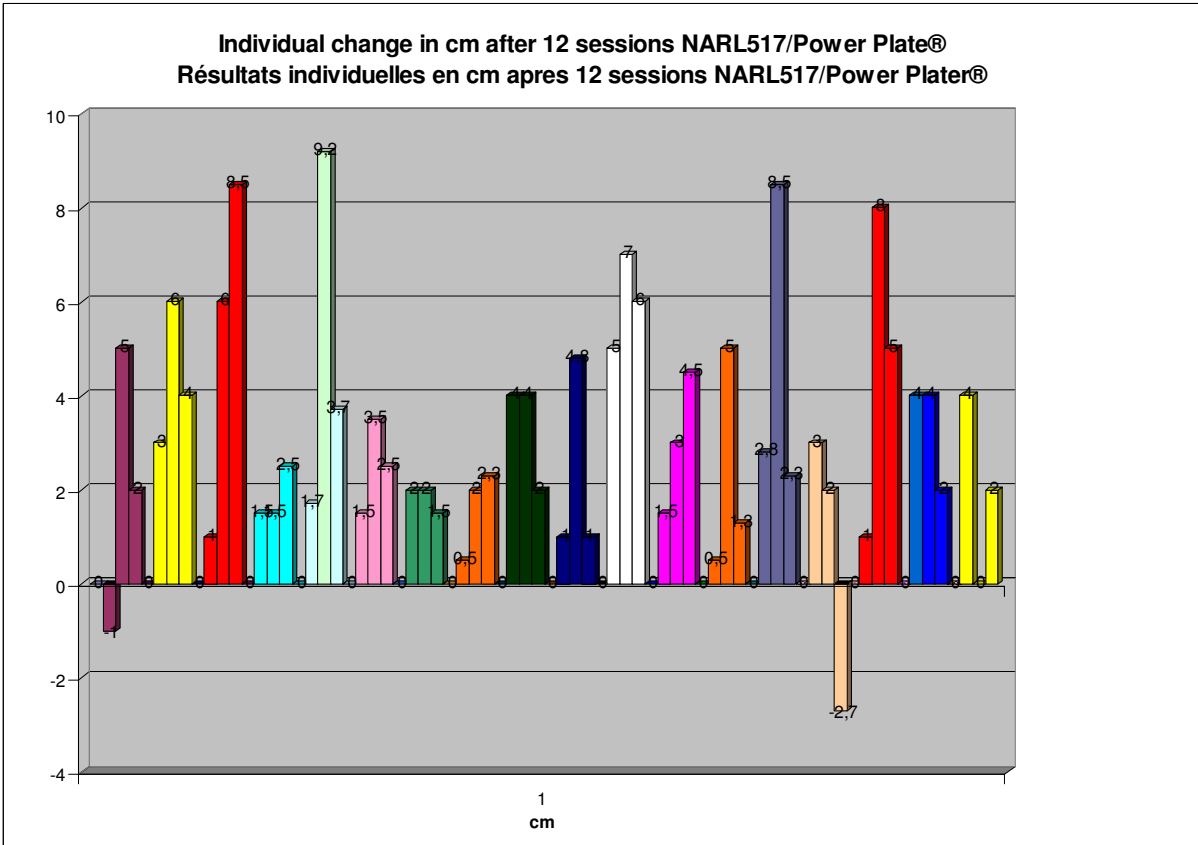


The average abdomen access lost :

Lost 2,39 cm 4 cm above umbilical point

Lost 5,00 cm on the umbilical point

Lost 3,13 cm 4cm under umbilical point



5. Conclusion.

The combination treatment NARL517 / Power Plate® pilot study show to be valid strategy to reduce significant the umbilical access. As the umbilical access is accepted to be good reference to predict the risk for metabolic diseases, this treatment can be a good approach to lower this risk for metabolic diseases. Further study is needed to quantify the amount of fat loss after this treatment.

6. References

Acceleration training

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ECO 2000 (European Congress on Obesity)

1. NE (NA) release in a local White adipose tissue by sonication.
2. Increase of FFA in serum by Sonication.
NAASO 2000 (North American Society for Study of Obesity)
3. Decrease of Subcutaneous Fat thickness of Sonicated right thigh, compared with Non-sonicated left thigh
4. Decrease of Subcutaneous Fat (abdomen) by sonication
JASSO 2001 (Japan Society for Study of Obesity)
5. Local circumference reduction by sonication with VLCD and EMS.
JASSO 2002
6. SF reduction by weak, wide area sonication by X-CT observation.
JASSO 2003
7. Dynamic Behavior of NA (NE) and FFA at NARL sonication.
NAASO 2004
8. NA (NE) Release from Human Salivary Glands by NARL Sonication.
JASSO 2005
9. Multi Site-Shift NARL Sonication with Small Area Pads and its Effect on Local Sites and Whole Body With CT Image Observation
NAASO 2005
10. Norepinephrine / Free Fatty Acid - Their Growth, Decay and Diffusion at Locally Sonicated Adipose Tissue with the Specific Ultrasound and Insight of the Mechanism.