

Radio Frequency Therapy (Vanquish) Noninvasive Body Sculpting for Reduction of Abdominal Fat

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Background: Non-invasive body contouring is one of the fastest growing fields in aesthetic medicine. *Vanquish* is a new, non-invasive, treatment that claims to reduce waist circumference by thermo-lysis of subcutaneous fat. *Vanquish* is an FDA approved device that uses selective, focus-field radiofrequency (RF) for deep tissue heating of the abdomen and flanks. To date there is no large clinical study looking at fat reduction from RF therapy. We hope to address this knowledge gap with our study.

Methods: Twenty-six subjects underwent Vanquish using our clinic's protocol of 6 treatments. Target area was the lower abdomen between the waist and hips. Prior to the first treatment, hydrostatic measurements were taken to assess accurate percent total body fat. Circumference and skin fold measurements were taken in nine areas on the body. These measurements were then repeated at the end of the study to assess changes in circumference, skin fold thickness, and percent body fat.

Results: Average skin fold reduction in treatment area was 0.31cm ($p=0.031$) (fig 1.tiff, fig 2.tiff). No change was seen in percent body fat ($p=0.26$) or skin fold thickness in the 8 other areas. This implies that fat loss occurred in the treated area alone. Waist circumference showed an average increase of 0.4cm ($p = 0.032$). Forty percent of subjects reported improvement in skin tightness after treatment. Body mass index (BMI) and percent hydration were individually predictive of reduction of skin fold thickness ($p=0.02$ and $p=0.03$ respectively). No major complications were reported. Several subjects experienced subcutaneous areas of firmness consistent clinically with fat necrosis, which resolved within 1-6weeks.

Conclusion: Radiofrequency body contouring is a worthwhile option for clients seeking to target fat reduction in specific areas. Our results objectively show a significant reduction in skin fold thickness but no change in overall percent body fat. The small increase seen in waist circumference may be explained by daily fluctuation and treatment target zone below the true waist. Amount of fat lost correlates to the client's starting BMI, and percent hydration, during treatments.