Background: Non-invasive fat reduction is an efficacious option for body contouring of the flanks, abdomen, thighs, back, and submental area. In this study we examined a non-invasive laser treatment for fat reduction in the submental area using a petite mask (10.49 cm²).

Study: 61 subjects enrolled at 3 study centers and received up to two treatments with a 1060nm laser on the submental area with a petite mask. All subjects were requested to maintain their standard diet and exercise routine throughout the course of the study. Adverse events were assessed at all subject visits in addition to phone calls as necessary. Subject satisfaction was recorded at the end of the study. Weight was recorded at each subject visit. High resolution 2-D photography was taken before treatment and 12 weeks post final treatment, and three blinded evaluators were asked to choose the post treatment photo from randomized pre and post treatment sets.

Results: Of the 61 subjects treated, 58 returned for the 12 week post final treatment follow up. Post treatment photos were correctly identified 91% of the time across all subjects. 91% of subjects were satisfied with their results (slightly satisfied, satisfied, extremely satisfied). A majority of adverse events were mild (78.8%) in nature and transient. The most common events were swelling and tenderness which lasted less than 6 and 9 days respectively on average. Subjects reported an average treatment pain of 3.4/10.

Conclusion: The use of a non-invasive 1060nm diode laser with a petite mask is an effective and safe method for fat reduction in the submental area.