Background and Objectives
The market for non-ablative procedures to improve the appearance of aging baby-boomers is exploding. Patients are looking for no downtime and efficacy; while physicians are looking for ease of use, short procedure time and efficacy.

The use of fractional photothermolysis has become a widely accepted modality for the treatment of skin rejuvenation. Several studies have been done to demonstrate that the Affirm laser with CAP (Cynosure, Inc.) technology in fact meets the above criteria.

The objective of this study was to evaluate the effect of fluence on the treatment of rhytids using the Affirm™ laser with CAP™ technology and the T350 tip.

Study Design and Methods
Twelve subjects with rhytids were enrolled in an IRB approved study. The Affirm laser with CAP technology (1440 nm, 10 mm T350, 3 msec, 1.5 Hz) was used at fluences ranging from 3.0-5.5 J/cm² in a split face study. At each treatment visit, fluences on the right side of the face were held constant at 3.0 J/cm², while the left side of the face started at 3.0 J/cm² and increased 0.5 J/cm² with each treatment to a maximum of 5.5 J/cm². Five treatments were given at two-week intervals using the SmartCool™ (Cynosure, MA). Photographic comparisons at baseline and 3 months were used to compare fluence results as well as to evaluate for efficacy in the treatment of rhytids. The following standard scale was employed: Poor (0-25%), Fair (26-50%), Good (51-75%), and Excellent (76-100%). In addition, following the study, subjects received a series of laser pulses at increasing fluences on their buttocks to further evaluate the effect of fluence on tissue reaction.

Results and Conclusions
Comparing the right and left photographic results, no clinically observable differences were noted. Both sides received the same grade in all cases. Five subjects (42%) were noted to have Good results, three (25%) were given a rating of Fair, and four (33%) were given a Poor result with little or no improvement observed. The follow-up buttock fluence study demonstrated an effect threshold at 3.0 J/cm².

The Affirm laser with CAP technology can provide overall improvement in patients with rhytids at moderate fluences. Increasing the fluence does not appear to increase efficacy. As seen in the follow-up fluence study, there appears to be an effect threshold around 3.0 J/cm² and increasing the fluence beyond that level does not appear to increase the tissue response or clinical effect.