THERMAL DISTRIBUTION STUDY

OBJECTIVE:

A phantom allows one to quickly evaluate the effects of a single parameter change to the overall thermal distribution of an EON treatment.

METHODS:

A phantom is a man-made synthetic mold that models the absorption characteristics of human fat. A phantom was created to increase the speed at which test results, with a single parameter change, could be evaluated quickly. The phantom had nine embedded thermocouples at various depths and positions on a 300cm^2 surface area. The thermocouple depths were always the same for each test, eliminating depth variability.

RESULTS:

A number of parameters go into developing the ideal power protocol for an EON treatment. Some of these parameters are:

- Laser power
- Scanning patterns
- Scanning rates
- Laser/cooling head to skin spacing
- Laser beam profiles
- Various spot sizes

Hundreds of tests were run on the phantom where a single parameter was changed, and the net differences were seen.

CONCLUSIONS:

The use of the phantom enabled us to greatly improve our treatment parameters which ultimately resulted in a Power Protocol that was very effective and very comfortable.