

Varicose veins is an extremely common medical condition affecting about 6 to 7 % of the entire population. In the past two decades, various non surgical treatment methods have evolved, which effectively close the refluxing veins without resorting to any surgical incisions. With continuous refinement in techniques and evolution of technology, these endovenous techniques have currently become the first choice of treatment in varicose veins.

Thermal ablation is a method whereby heat energy is used to close the veins. In laser thermal ablation, a thin laser fiber is introduced percutaneously into the refluxing vein under ultrasound guidance. Currently the favoured laser wavelength is 1470 nano microns, and a radial tipped laser fiber is used. Dilute tumescent anesthetic is then injected under ultrasound guidance around the vein. As the laser is fired, thermal energy is generated, which caused thermal damage to the endothelium of the vein, causing its immediate closure. The fiber is gradually pulled back through the vein, achieving complete closure of the vein along its length. The patient is immediately

mobilized, and most patients can resume their normal duties within 24 to 48 hours. Compression garments are usually prescribed, to be worn during daytime for upto a month.

Radiofrequency is another technique whereby thermal energy is generated. The delivery element of the Radiofrequency catheter is about 7 cm long, and thermal energy is delivered in a circumferential manner. Multiple segments of the vein are closed sequentially by delivering thermal energy. The results of radiofrequency ablation are similar to those achieved by laser treatment.

Foam sclerotherapy is a technique whereby a sclerosant solution is converted into foam, and injected into the refluxing varicose veins under ultrasound guidance. The most commonly used sclerosants are polidocanol and sodium tetradecyl sulphate. This relatively simple technique gives fairly good immediate results, although the long term results of closure are inferior to those of thermal ablation.