GENTLE ABLATION WITH RFITT TECHNOLOGY
For varicose vein treatment
CElon RFITT Method
For healthy and beautiful legs

CElon has developed a leading bipolar radiofrequency ablation (RFA) system that can be used to treat successfully insufficient veins in a minimally invasive procedure.

RFITT (Radiofrequency-Induced Thermotherapy)
The unique bipolar radiofrequency-induced thermotherapy (RFITT) technology represents an effective, user-friendly and safe alternative to conventional surgical methods, to laser technology and to monopolar high-frequency applications. During the procedure veins are gently heated to a temperature of 60 to 100 °C using the CELON ProCurve bipolar applicator inserted into the vein. The tip is rounded so as to allow the applicator to be inserted into and withdrawn from the vein easily and gently. This localized and precise application of radiofrequency energy causes the vein to shrink and occlude in a short time. The obliterated vein remains in the body and is no longer visible.
System features
- Bipolar technology (safe high-frequency treatment)
- 3D-impedance feedback (acoustic signal indicates the tissue response at all times)
- Auto stop function (reduced risk of thermal injuries or burns)
- Same RFITT applicator can be used for saphenous and perforator veins
- Free choice of anesthesia, for example GA, spinal, local, tumescent
- Free choice of access to the vein (introductor or vena section)

Patient benefits
- Rapid mobilization
- Outpatient setting
- Significantly lower levels of post-operative discomfort
- Good cosmetic results
- High patient satisfaction
- No inflammatory reactions
- Less scarring, infection and hematoma

Clinical outcome
“Complete occlusion rates of 98.4% ...”

“RFA was less painful for patients than EVLA and produced less bruising in the postoperative period with comparable success rates...”
Laser and Radiofrequency Ablation Study (LARA study); A Randomised Study Comparing Radiofrequency Ablation and Endovenous Laser Ablation (810 nm) [Eur J Vasc Endovasc Surg. 2010 Aug;40(2)]

Prof. Mark Whiteley
MS FRCS (Gen) FCPPhleb
Consultant Surgeon and Clinic Director, The Whiteley Clinic, United Kingdom
“The Celon RFITT ProCurve system has proven to be a very successful addition to our veins service. When used as part of our protocol, we have had excellent results in both truncal veins and perforators. As it uses radiofrequency, it does away with the need for laser regulations.”

Dr. med. Thomas K. Weiler
Specialist for Surgery, Vascular Surgery and Phlebology, Vein Center – Pforzheim, Germany
“I have used the Celon method for 4 years, and I am very satisfied with this in using this endovascular approach as the results are truly convincing. Given a correct indication, under proper application, an almost 100% occlusion rate can be achieved in the treated vein segments. A particular advantage of the method is the fact that tumescent anesthesia can be basically avoided.”
3D-impedance feedback

The 3D-impedance feedback of the CELON Precision RF ablation control unit ensures a controlled power output during the entire coagulation process. An acoustic feedback signal indicates the treatment status at all times. As the degree of coagulation advances, impedance is measured directly at the tip of the CELON ProCurve bipolar applicator. The patented RFITT technology continuously monitors tissue resistance, with an acoustic signal as impedance feedback. During the entire coagulation process the automatic power output control function adjusts the emitted energy. If the tissue is occluded, the impedance and the frequency of the acoustic signal increases and power output stops automatically.

The diagram illustrates the three parameters power, impedance and acoustic signal in their relation to each other and to time. The success of the treatment is determined by the withdrawal speed. The optimum withdrawal speed is indicated by a slightly increasing frequency of the acoustic signal.

Duplex ultrasound imaging

The RFITT applicator can be easily seen on duplex scanning where the two electrodes of the CELON ProCurve tip produce visible acoustic shadows. This is an advantage for clinicians new to the technique of endovenous ablation.

The flexible applicator is passed under ultrasound monitoring into the affected vein.

To ensure correct positioning the applicator tip must be located at the saphenofemoral junction.

The vein is occluded by impedance-controlled release of radiofrequency energy as the CELON ProCurve applicator is withdrawn slowly and smoothly.

Images courtesy of Dr. med. Peter Jüvon Lipinski, Specialist for Surgery and Vascular Surgery, Center for Vascular and Endoluminal Therapy Hamburg, Germany
Each applicator has a diameter of just 5 Fr. (1.8 mm) and a total working length of 120 cm. Single markers are provided on the applicator at 10 cm, a double marker at 50 cm and a triple marker at 100 cm, so providing the user with a means of ensuring the correct pull-back speed is maintained. Thanks to the bipolar electrode measuring just 1.5 cm, it makes it possible to not only treat the great and small saphenous veins, but perforator veins as well, providing for potential cost savings.
**CElon Precision Power Control Unit**

Control unit
"CelonLab PRECISION",
WB991027
200 – 240 V
WB991028
100 – 120 V

Bipolar power control unit with acoustic process monitoring, automatic power control and application time display for bipolar RFITT applicators.

Power cable must be ordered separately.

Delivery includes: control unit, foot switch.

**Technical Data**

- **Power supply**
  - Voltage: 200 – 240 V ~
  - Voltage: 100 – 120 V ~
  - Frequency: 50/60 Hz
- **Power consumption**: 100 W
- **Size**
  - Width: 436 mm
  - Height: 175 mm
  - Depth: 335 mm
  - Weight: 9.7 kg
- **Output**
  - Power: 1 – 25 W (in steps of 1 W)
  - Frequency: 470 kHz (±10 kHz)
- **Safety**
  - Protection class: I, IP 21
  - Applied part: type BF, defibrillation-safe

**CElon ProCurve Applicator**

Flexible bipolar HH11 I applicator for intraluminal use

WB990206
bipolar applicator
"CelonProCurve 1200-S15”,
1.8 mm (6.4 Fr.), spherical tip,
1200 mm shaft length,
15 mm electrode length,
sterile, single use, 5 pcs.

**Accessories**

- **B125011A** Power cable, 3 m, type E/F (CEE 7/7), for continental Europe
- **B125036A** Power cable, 3 m, type A (JIS C 8303), for Japan
- **B125048A** Power cable, 3 m, type G (BS 1363), for UK
- **B125060A** Power cable, 3 m, type B (NEMA 5-15), for USA