onemytis® 2

the evolution of Airplasma® technology

DIGITAL TECHNOLOGY

- more compact
- faster and more effective
- with new accessories for endoscopic and laparoscopic surgery
- ready for the new applications in development

Onemytis® 2 is the digital evolution of the Airplasma® technology. The performance is more effective, accurate and faster with the option of personalizing the preset procedure programs.

Onemytis® has gained, in a few years, a significant recognition from European veterinary surgeons who have been able to measure and appreciate its benefits.

Onemytis® has been used with success in many surgical applications. It has shown to be versatile and particularly effective in soft tissue surgery.
For many veterinary surgeons, Onemytis is now considered as the device of choice for some specific procedures in the oral cavity, in ophthalmology, for the skin & ears and for most of the oncological surgeries.

Onemytis® works at a **maximum temperature of 122°F** (50°) (measurements validated with **infrared thermic chamber**) inducing a significant reduction of thermic tissue damage.

Onemytis® makes surgery safe, reduces tissue damages and surgical pain. It limits the need of anaesthetics and sedatives. Moreover, it provides a reduction of surgical and healing time and post-surgical complications.

Recent studies on the fume produced by **Onemytis®** during surgeries demonstrated that no detectable carcinogenic compounds are present (below the threshold of 0.01 mg/m3).

The Cold Atmospheric Plasma (CAP) has also been demonstrated having a significant toxic activity against cancer cells both through direct action and indirectly through the activation of fluids that enter in contact with the cancer cells.

PLASMA

Plasma is the forth state of the matter and is a fascinating topic of research worldwide with multiple surgical and medical applications (Plasma Medicine).

Plasma can be artificially produced at very high temperature (eg: metal cutting) or at lower temperature with partial gas ionisation that is obtained though a difference of potential generated by specific electronic protocols.

More and more publications confirm that low temperature plasma usage offers a number of very important medical benefits:

- **it induces direct or indirect apoptosis (programmed death) of cancer cells** (1,2);
- **it stimulates the production of FGF-2 (Fibrin Growth Factor 2) with improved and faster tissue healing** (3, 4);
- **it increases the activity of some components of immune system cells** (5).

Airplasma® technology works at low temperature and uses the surrounding atmosphere as plasma gas source with significant advantages for its surgical application.

Bibliografia:
1) Clinical experience with cold plasma in the treatment of locally advanced head and neck cancer. (Hans-Robert Metelmann et al. - Clinical Plasma Medicine 9 - Feb 2018)
2) Plasma-activated medium (PAM) kills human cancer-initiating cells. (Ikeda JI et al. Pathol Int. 2018 Jan)
3) Endothelial Cell Proliferation is Enhanced by Low Dose Non-Thermal Plasma Through Fibroblast Growth Factor-2 Release (Sameed Kalghatgi et al. - Annals of Biomedical Engineering, Vol. 38, No. 3, March 2010)
4) Cold atmospheric plasma (CAP) activates angiogenesis-related molecules in skin keratinocytes, fibroblasts and endothelial cells and improves wound angiogenesis in an autocrine and paracrine mode. (arndt S. et al. - J Dermatol Sci. 2018 Feb)
5) Immunogenic Potential Of Cold Atmospheric Plasma For The Treatment Of Pancreatic Cancer. (JintheVan Loenhout et al. - Clinical Plasma Medicine 9 - Feb 2018)

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Techincal Informations

Weight	**2.5 kg - (*5.5* lbs -)**	Output power	**10 Watt max**
Size (WxDxH)	**25.5x21x11 (*10x8.27x4.33"*)**	Frequency	**50 kHz**
Signal type	**sinusoidal**	Power supply	**100- 240 Volt - 50/60 Hz**

International patent application no. PCT/IB2014/061289

OTECH INDUSTRY

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Distributor for the US & Canada:

onemytis® 2

the new generation

ANOTHER BIG JUMP IN THE FUTURE OF SURGERY

airplasma® technology

airplasma®
the future of surgery

The Airplasma® technology permits the elimination of the isolating power of the air through an electronic process that makes it an ideal electric conductor. This technology allows applications at low temperature. Operating at a **maximum temperature of 122°F** (50° C) it is possible to induce tissue vaporization for **ablation**, tissue **dissection** or **cutting** and **small vessels hemostasis**. In traditional electrosurgery, cutting and coagulation procedures are produced at temperatures over 244°F (100° C) and voltage spikes over 5,000 V.

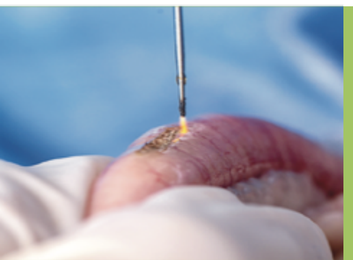
The Airplasma® technology does **NOT need any external gas source** (Argon or Helium) and it does **not need any return plate**, because there are no propagation of electric current nor heat through the patient body.
With the Airplasma® technology **the electrode does NOT interfere directly on the patient**. The electrode **activity is mediated by the plasma** that is forming when the electrode gets close to the patient (1 -2 mm in relation to the set power) without spikes of high temperature. This is the major reason for the NON traumatic & tissue damage with Airplasma®.

The technology allows high **accuracy and fast execution** of surgery, as important, a **reduction of healing time**

Onemytis® with Airplasma® technology
The present and the future of surgery.

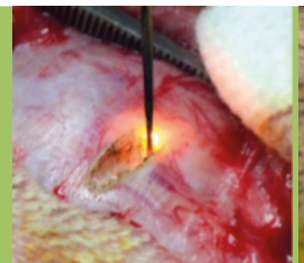
onemytis® 2

Onemytis® 2, result of Italian research & technology, is a device that allows surgery in a faster and more effective way. Used as **single tissue dissecting device**, it permits to control bleeding by inducing instantaneous hemostasis on small vessels (less than 2mm in diameter). **Onemytis®** also guarantees absolute precision, by perfectly isolating all surgical anatomical sites. Thanks to the improved technology Airplasma®, **Onemytis®** 2 is absolutely safe. The electric power emitted by **Onemytis®** 2 is low (>10W) and does not induce significant current in the patient body. Unlike laser devices, it does not require much time to prepare patients and protect surrounding tissues tissues, thereby reducing operating time and costs.
It does not require any return plate and the weak power is safely dispersed.
The plasma is generated spontaneously by simply bringing the tip of the hand-piece (electrode) near the tissue; once plasma is present, contact with the tissue produces an accurate dissection.
Onemytis® 2 considerably reduces the production of heat, respecting target tissues and those all around.
Onemytis® 2 also **works in CO2 atmosphere** allowing unique **endoscopic and laparoscopic applications** using specific electrodes adapted to endoscopic devices.



onemytis® 2
one single device for many benefits

- reduction of Operating Time
- low Temperature
- superficial Ablation
- surgical Cut
- Hemostasis
- endoscopic Surgery
- no Return Plate
- faster Healing
- reduced Pain
- no carcinogenic compounds in the Fume
- plasma induces apoptosis of Cancer Cells



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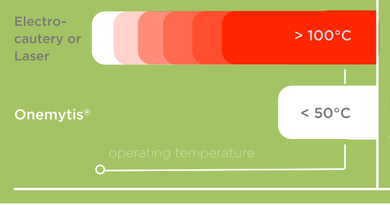
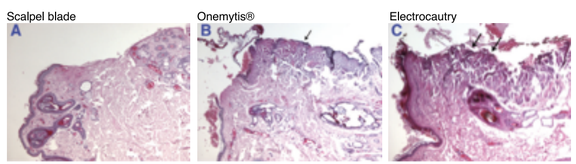


by operating at lower temperature:

less pain
reduced need for sedation
faster healing & recovery

> "The low working temperature reduces the tissue thermal damage and allows a better and faster healing"

onemytis®
electrosurgery without tissue necrosis



*Pictures from: Clinical use of a new surgical plasma device. (A. Vezzoni et al. - "Veterinaria" year 30 issue 4 August 2016)

COMPLETE MULTIPURPOSE SURGICAL DEVICE:
- HIGH PERFORMANCE
- GREAT VALUE

Onemytis® 2 is a practical device, easy to carry thanks to its compact size and carry case. The hand-pieces and connecting cables are fully auto-clavable.
Particularly versatile, it allows numerous different surgical procedures using a single tool, thanks to the **interchangeable, auto-clavable electrodes specifically for Onemytis®**.
Specific accessories for **endoscopic and laparoscopic surgery** are available.

several available electrodes

electrode for endoscopic probe