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All for Health.
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PLA
Plasma Probe

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Technique Leap Create Future

Mechan low temperature Plasma Surgery System for Ophthalmology
The first one in the world The global leader

Stock Name: Mechan Medical
Stock Code: 833234

CE

PLA-800 **Ophthalmology**

Plasma Surgery System

MECHAN EUROPE

All for Health All for Life

PLA
PLASMA PROBE

THE LEADING PIONEER IN ADVANCED PLASMA PRODUCTS FOR OPHTHALMOLOGY

The global original low temperature and minimally invasive Plasma Surgery System for ophthalmology, peculiar to the Kinetic Energy Micro Resection technology

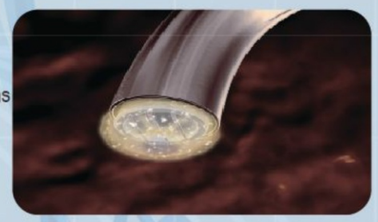
Low temperature and minimally invasive Plasma Surgery System for ophthalmology

More safety and efficiency for surgery

More effective in removing and inactivation of residual lesions

Make the surgical wounds smoother

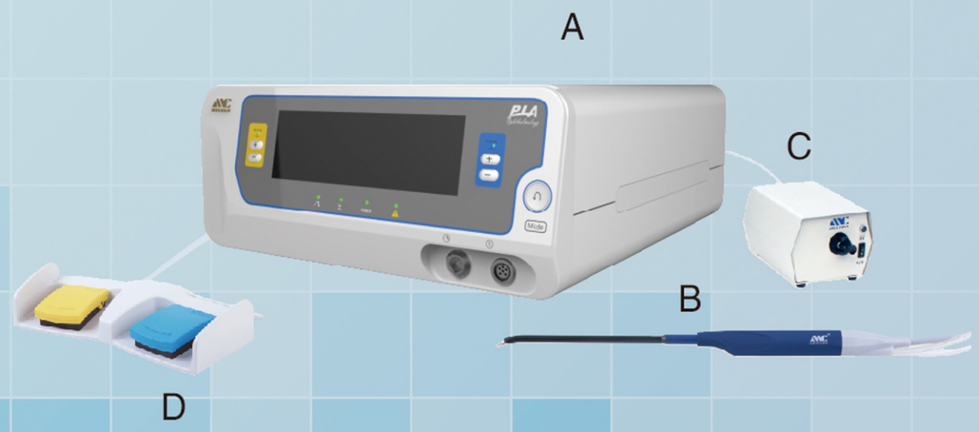
Reduce the recurrence rate of diseases obviously



Bring a revolutionary leap to ocular surface diseases and tumor operations

Low temperature Plasma Surgery System

A.Generator B. Cable integrated probe C. Normal saline control valve D. Foot switch



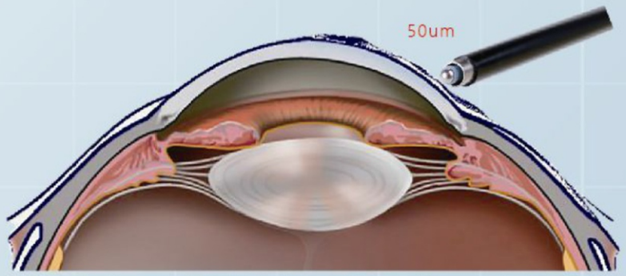
About Plasma

It's confirmed that there are 3 physical forms of material existence in human living environment. They are solid, liquid and gas. Any physical form can exist in different states due to the influence of environmental factors. Plasma is the forth form of material existence. It's composed of ionized conductive gases, including six typical particles, which are electron, positive ion, negative ion, atom or molecule at excited state, atom or molecule at ground state, and photon. Plasma is composed of those positive and negative charged particles and neutral particles, and is a kind of quasi-neutrality gas with collective behavior. That is also called highly ionized gas. No matter whether it's partially ionized or completely ionized, it's called plasma when the total negative electric charge equals to the total positive electric charge.

How it Works?

MECHAN Plasma Treatment System can generate high dense plasma region around the probe electrodes (voltage difference exists between electrodes of bipolar or multi-polar probes) by conducting medium like sodium chloride solution or electrolyte in cells. The plasma region is composed of a highly oxidized and highly gasified plasma thin layer (50-100um). The plasma layer has enough energy (3-5ev) to destroy the organic molecular chains in the tissues, thus making the molecules separate from each other directly, thus with minimal collateral damage caused.

Different from the traditional electrosurgical method that achieving separation and coagulation by heating tissues, MECHAN plasma probes uses kinetic energy generated through the quick movement of low temperature plasma in a 100KHZ electric field to achieve tissue decomposition and complete resection. The electricity will not flow through tissues directly, so the tissue heat is limited and working temperature is controlled at a low level. Our Plasma Treatment System has the advantages as below: tissue surface temperature kept at 40-70℃, collateral damage to surrounding healthy tissues limited to the least, thermal penetration controlled at the best, focused ablation at tissues in the way of molecular separation, and others.



Notes: the working depth of the plasma probes is about 50um to 100 um, at the same time, inject saline coaxially at 360°to take heat away.

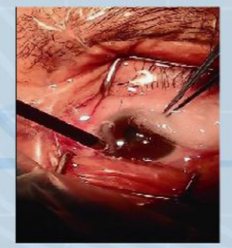
Latest 4th Generation Intelligent Plasma Probe PLA209

By working closely with domestic and overseas professionals for many years, MECHAN has successfully developed the latest Intelligent Plasma Probe PLA209 for Ophthalmology in 2015. When the probe is connected with the generator, it will automatically display the Plasma Intensity on the Probe Tips intelligently, at the same time, the probe combines all the functions, such as the irrigation, suction, resection, coagulation, ablation and homeostasis. It is the best way to carry out the ocular surface disease with the combination of the tradition and science.

PLA209 (Patented)

Functions

- ●Achieving surgery effects via the kinetic energy generated by rapid movements of plasma, minimize the injury to the around tissues.
- ●Using rare and precious metal materials and nano super slippery ultrathin insulating layer.
- ●Bipolar structure design, reducing the injury to the peripheral tissue, improves the surgery safety.
- ●New design of the probe working tip, probe structure is exquisite; fully meet the needs of clinical use.
- ●Cable integrated design, easy for operation and avoid crossing infection.
- ●Achieving 360° coaxially infusion when the plasma probes are working, which reduces the working temperature obviously.



Clinical advantages of plasma probes in the treatment of ocular surface disease and tumor operations:

● Safe

The ablation depth can be controlled at 50um to 100um, which is high in safety. If the corneal stroma and the sclera have diseases and got ulcer, the lesion tissue can be ablated but the depth will not exceed normal tissue at the bottom of the wound surface. (Note: not suggested to use on cornea and sclera about of perforation.)

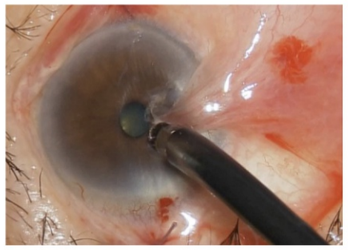
Thermoosmosis infrared image research of plasma probe shows:

Clinic Applications of Low-temperature Plasma Surgery System for Ophthalmology

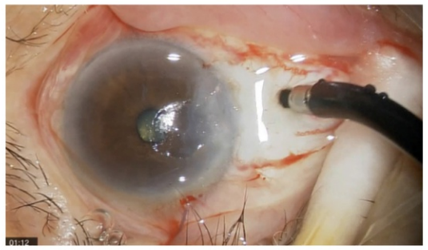
Plasma Surgery for Pterygium Resection

Three advantages

- Clear corneal lesions more thoroughly to reduce recurrence rate of Pterygium.
- Control hemorrhage during operation, keep surgical field clear.
- Relieve pain intraoperative and postoperative, low incidence of inflammation.



Pterygium resection



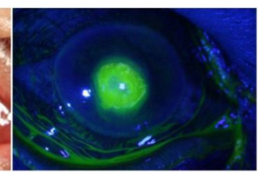
Pterygium coagulation

Plasma surgery for Fungal Keratitis

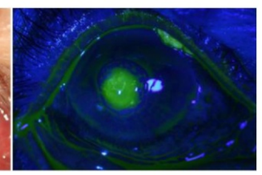
Three advantages

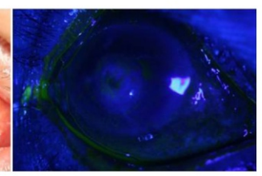
- Accurate debridement for corneal lesions
- Effectively restrain and inactivate fungus
- Speed up healing of corneal ulcer surface

Pre-surgery: CM hypha visable

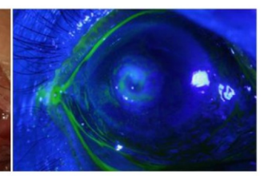


One week after surgery





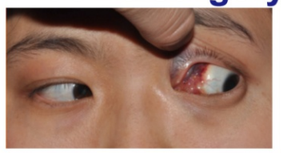
Two weeks after surgery: CM hypha unobserved



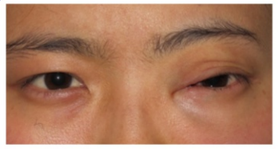
Three weeks after surgery: CM hypha unobserved, epithelial healing

Applications for other exterior ocular diseases

Plasma surgery for Ocular Tumor

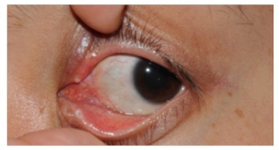


Pre-surgery



One day after surgery

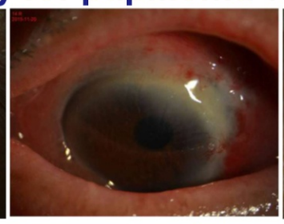
One month after surgery



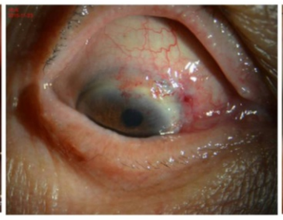
One month after surgery

Plasma surgery for papilloma virus

Pre-surgery



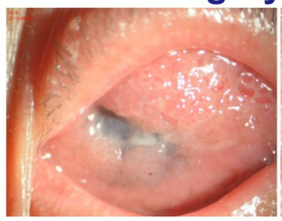
One day after surgery



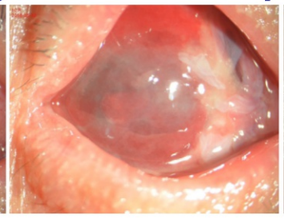
Seven days after surgery

14 days after surgery

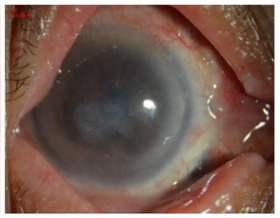
Plasma surgery for Corneal Squamous Cell Carcinoma



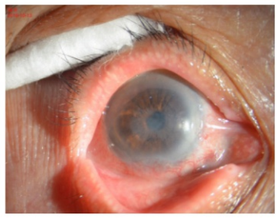
Pre-surgery



Post-surgery



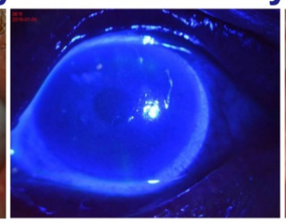
Two months after surgery

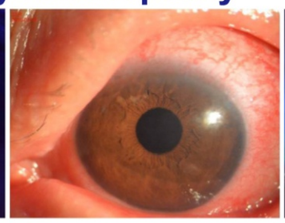


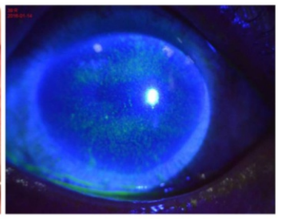
Two months after surgery

Plasma surgery for Filamentary Keratopathy

Pre-surgery

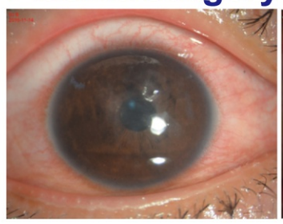




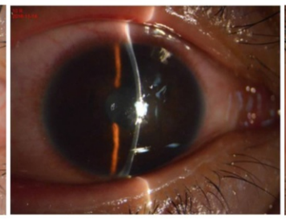


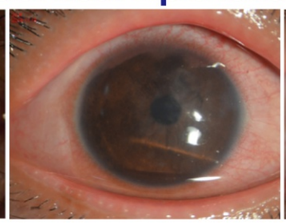
One week after surgery

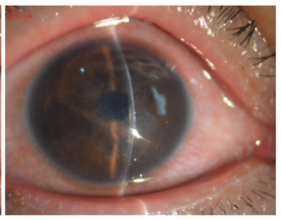
Plasma surgery for Persistent Corneal Epithelial Defects



Pre-surgery







One day after surgery