



Gynaecology

Plasma Surgical System

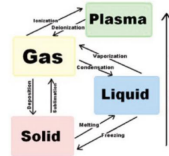


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Low Temperature Plasma Technology Introduction

Plasma Technology

our plasma technology devices are able to create a stable plasma layer of only 50µm thick around the active electrode through the conductive medium (mainly H2O and NaCl and air). While conventional electrosurgical products use imprecise heat-driven processes to remove, cut tissue or for coagulation, MECHAN plasma probe carries out cutting, coagulation, dissection and hemostasis by creating a high density energy within 100KHz electric field.



Cutting Theory

Plasma at high speed moving generates kinetic energy to break molecular bonds(40-70°C), thus making the molecules separate from each other and the tissue volume get reduced. The thermal injury is controlled within 0.5mm, collateral damage to surrounding healthy tissues limited to the least.

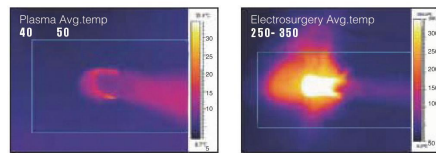
Coagulation Theory

The low temperature plasma can precisely control the temperature at 40-70°C during the hemostasis process, which ensures the spiral structure of the collagen molecule shrink and maintains the vitality of the cells.

Advantages of plasma technology

Safety

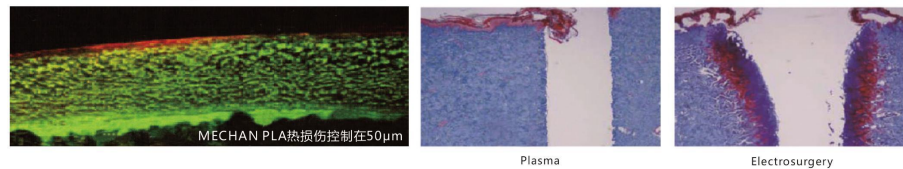
Compared with traditional surgical methods (such as lasers and electrosurgical devices), electric current will not pass through human body during plasma surgery. The operation side temperature is only 40°C-50°C, the thermal damage of surrounding tissue was smaller.



Temperature contrast between MECHAN Plasma and Electrosurgery

Minimally invasive

Compared with traditional surgical methods (such as lasers and electrosurgical devices), low temperature plasma technology creates less heat resulting in minimal thermal damage to surrounding soft tissues, and reduces wound healing time, wound bleeding and scar formation.



Plasma

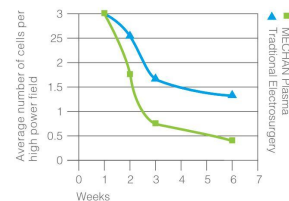
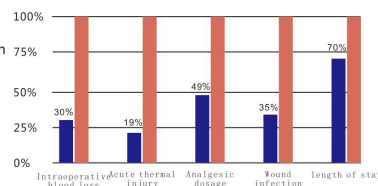
Electrosurgery

Minimally invasive

Compared with traditional surgical methods (such as lasers and electrosurgical devices), the intraoperative pain of the patients was obviously alleviated, and the incidence of postoperative inflammation was obviously decreased. In the operation, the doctors can stop bleeding while cutting and do not need any other hemostatic tools.

gynaecology Coblation Plasma Surgical System

MECHAN
Tradition



Gynaecology Plasma Surgical System

- ◆Bipolar or multipolar cutting, low temperature ablation, hemostatic, coagulation, minimally invasive, safe and reliable.
- ◆ABLATION mode(including resection, hemostasis and ablation), PLACOAG mode (including hemostasis and coagulation).
- ◆Different types of probes available for options. The length, diameter, radian, energy level of probes are designed as per the requirements of different locations and diseases.
- ◆Multi-function probe designed for ablation, coagulation, hemostasis and resection. All functions are achieved at the same one handle and in the same output socket, thus no need to change probes frequently during surgery.
- ◆Supplied with the functions and accessories for multi polar suction and cutting, MECHAN plasma gynaecology surgical system can carry out Salpingectomy, Oophorectomy, Myomectomy, etc.
- ◆The sound size of the host can be adjusted, distinguishing working audible call of ABLATION and PLACOAG to avoid stepping on the wrong foot pedal.
- ◆Automatic detection technology of impedance and energy. Monitoring system of thermal damage depth.
- ◆Host machine can automatically identify the connection status of handle and footswitch.
- ◆The host can automatically identify the probe type and dynamically detects the plasma intensity at the tip of the probe.
- ◆You can start and switch the ABLATION and PLACOAG mode through the foot switch;
- ◆It can automatically set the default power level after connecting the footswitch and probe.



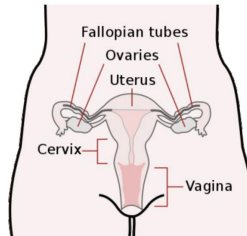
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Oophorectomy

An oophorectomy is the removal of the ovaries, and a salpingectomy is the removal of the fallopian tubes. These two procedures are most often performed to prevent the spread of ovarian cancer. The two procedures can also be performed for pain relief, as a preventative measure for women with high risk for ovarian cancer, ovarian cysts and other forms of uterine cancer or suspicious carcinomas in their reproductive systems.

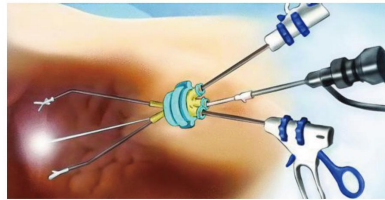
Ovarian/Fallopian Anatomy and Blood Supply

Ovaries are paired organs that reside close to the lateral abdominal wall in the pelvis. Ovarian artery is the major source of blood and most frequently arises directly from the abdominal aorta. Left ovarian artery may originate from left renal artery; right ovarian artery may exist as a branch of the right renal artery. The ovarian branch of the uterine artery is also a source of blood. Fallopian tubes convey the egg to the uterus and receive their blood supply from the ovarian and uterine arteries. The ovarian veins follow the course of the arteries.



Procedure

1. may be performed laparoscopically or abdominally.
2. explore abdomen and pelvis; identify adnexal structures.
3. clamp ovarian vessels proximal to the ovary and ligate.
4. incise peritoneum of the anterior and posterior leaves of the broad ligament toward the uterine cornu.
5. clamp the junction of the fallopian tube and uterine cornu; and ligate at the utero-ovarian vascular anastomosis;
6. repeat for other ovary if bilateral.
7. If only oophorectomy is required, divide the mesosalpinx and utero-ovarian vascular supply adjacent to the fallopian tube.



Myomectomy

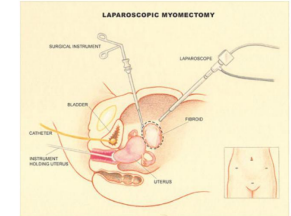
This surgery involves the removal of uterine fibroids without removal of the whole uterus. The fibroids grow back in about 25 to 50% of women and about 10% of women will need a second surgery. This procedure is often used to "buy time" if the woman is planning to become pregnant in the next few years. The advantages of this surgery are that it preserves the uterus for childbearing and involves less extensive surgery, which implies less extensive recovery periods.

Uterine Anatomy and Blood Supply

The uterus is a thick-walled, pear-shaped muscular organ located between the bladder and rectum. Blood supply is from the ovarian and uterine arteries. Ovarian arteries arise from the aorta (left ovarian artery may come from the left or right renal arteries), and supply a majority of blood to the ovaries. Uterine artery arises from the internal iliac (also referred to as the hypogastric artery); it divides into a tubal branch, an ovarian branch, a cervical branch, and the vaginal artery. Uterine artery runs down and medially, crossing the ureter near the cervix, and ascends along the lateral border of the uterus giving off lateral branches.

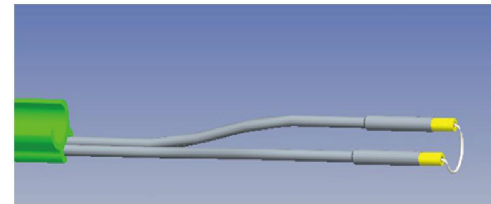
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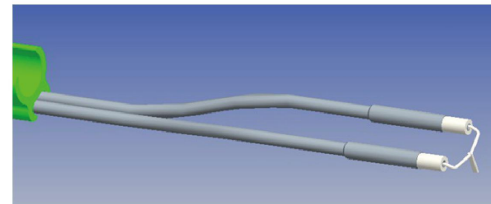


Hysteroscopic plasma ablation

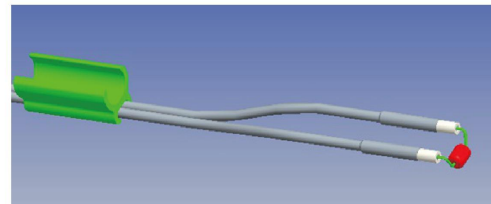
clinical application: hystero-myoma, Endometrial bleeding, Adhesions of uterus



201 Annular Probe, Used for removal and hemostasis of superficial tissue, Surface repair of the mucous membranes and scars of the uterus



Used for deep tissue resection, hemostasis, and fibroids



Used for precise vaporization and coagulation of surface tissue and hemostasis, Surface repair of the mucous membranes and scars of the uterus

All for life All for health



PLA Series Products Inspection Items

Biocompatibility: cytotoxicity	EN ISC10993-5:2009
Biocompatibility: sensitization, skin irritation test	EN ISC10993-10:2009
Test of packaging materials: vacuum leaks, pigment In-filtration, agar attack, seal stripping/laging experiment	EN ISC11607-1:2009
Safety regulations Third Edition	EN60601-1:2006/AC:2012
Obtained the CE Certificate and ROHS Certificate, Passed the EMC detection	IEC62321:2008/IEC60601-2-2:2007
Special standard	EN60601-2-2:2009

Technical Parameters

Input Voltage 198~242V 50Hz/100~120V 60Hz convertible as customized	Output Power ABLATION <=350W PLACOAG <=100W
Working Frequency 100KHz±10%	Physical Dimension Length340mm*Width459mm*Height155mm
Working Mode ABLATION : 1-10LV、PLACOAG : 1-10LV	Weight 7kg