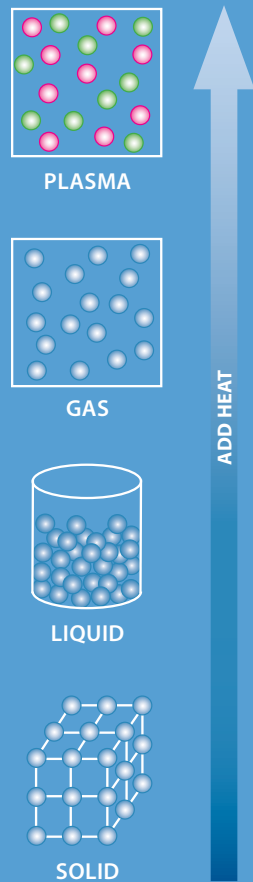




ENLIGHTENED SURGERY IS WITHIN REACH



States of Matter



A "plasma" is often referred to as the fourth state of matter; after solid, liquid and gas. As you heat or apply energy to a solid it melts to form a liquid; do the same to a liquid and it becomes a gas. Apply energy to a gas and it ionises to become high energy plasma – a short-lived and electrically neutral mixture of ionised gas atoms and electrons. The secret of Plasma Surgery technology lies in the use of a very small amount of gas. While the particles in plasma have a very high energy level, there are very few emitted in the PlasmaJet stream.

Rocket Science for Better Surgery

The advanced space-age technology employed in the PlasmaJet system has never been seen before in surgery; in fact you could say it comes from outer space – for it was developed from the plasma engines used to position satellites in space. The new technique of 'Plasma Surgery' uses a pure plasma to provide an electrically neutral energy source that can cut and coagulate tissue with minimal damage to the underlying and adjacent tissue.

The power to cut tissue is unmatched by any other electro-surgical device; the PlasmaJet system can even cut and coagulate bone. Equally impressive is the shallow penetration of the energy beyond the tissue surface; this is typically less than 0.5mm and never more than 2mm, allowing the PlasmaJet system to remove unwanted tissue from sensitive structures such as the bowel, diaphragm, fallopian tubes and ovaries for example.

Plasma Surgery thus provides the power to cut through all types of tissue, including bone, with simultaneous coagulation – and yet still be gentle to the tissue surface; having the ability for example to completely seal the surface of the lung – providing both haemostasis and aerostasis.



"PlasmaJet is a versatile and safe device with a quick learning curve, which can be effective in the treatment of superficial and deeply infiltrative endometriosis. I was looking for something comparable to the CO₂ laser and found it with the PlasmaJet."

Ceana Nezhat, MD, FACOG, FACS
Fellowship Director, Center for Special Minimally Invasive Surgery & Reproductive Medicine. Vice-Chair, Department of Obstetrics & Gynecology, Northside Hospital, Atlanta.



Clean. Precise. Civilized.

Plasma Surgery is delivered only by PlasmaJet - the first and only pure plasma surgery system. While several electrosurgery devices use the word 'plasma' to describe their action – they are essentially variants of conventional electrosurgery devices that use a high voltage and all involve the passage of a current through the tissue. However, the PlasmaJet system uses a fine electrically neutral beam of pure plasma to cut and coagulate tissue with no external electrical current. As a result, the PlasmaJet system offers unmatched precision with far less unintended tissue destruction than electrosurgery. With no ground pad and no electrical current flow through the patient, the PlasmaJet system is safe in laparoscopic surgery and there is no risk of alternate site burns.

A Multifunctional Tool for Today's OR

The PlasmaJet system brings the benefits of clean and precise plasma surgery for cutting and coagulation to a very wide range of surgical procedures. With a range of handpieces for open and laparoscopic procedures, this multifunctional tool is now being used with remarkable success in a growing number of clinical centers in North America and Europe, particularly in:

- > Minimally invasive Gynecological surgery
- > Hepatobiliary surgery
- > Thoracic surgery
- > Plastic surgery
- > General surgery
- > Orthopedic and Spine surgery

In the PlasmaJet system a very low flow (typically around 0.4 l/minute) of argon gas is excited by a low DC voltage applied between internal bipolar electrodes. The resulting pure plasma is an electrically neutral mixture of argon ions and electrons that emerges from the tip of the handpiece in a precise jet stream. The plasma quickly gives up its energy in the form of light that illuminates the surgical field, heat that is used to coagulate the surface of tissue, and kinetic energy that clears the surgical site of fluid and can be harnessed to cut tissue.

The PlasmaJet® System

PlasmaJet components

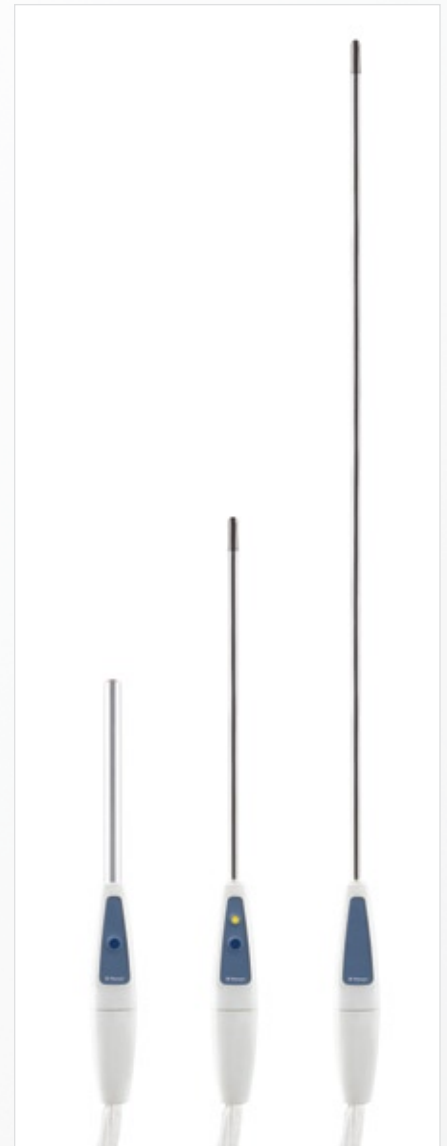
The PlasmaJet system consists of a console that is normally mounted on a service trolley (which houses the gas tank) and a range of single-use handpieces for open and laparoscopic surgery. The console can also be mounted on standard operating room carts or ceiling fixtures.

Features of the console

- > Simple user interface on a color LCD screen
- > Clear visual set-up instructions and an easy to read settings display
- > Integrated cooling system that cools the tip of the handpiece at all times
- > Footswitch to operate laparoscopic handpieces if preferred

Benefits

- > No ground pad or external electrical current passing through tissue, eliminating the risks of burns or injury associated with electrosurgery
- > Ability to cleanly and precisely cut through all tissues, including bone
- > No risk of 'overshoot' as seen in surgical lasers
- > Minimal depth of tissue damage
- > Coagulates all tissues including bone
- > Prevents the leakage of blood, air, bile and lymph from the surface of tissue by the rapid creation of a thin and flexible sealing layer
- > Safe to use on patients with implanted electronic devices and metallic implants, as well as near sensitive tissues and nerves without risk of evoked potentials
- > Absence of a physical blade minimizes tissue contact and eliminates risks associated with instrument-tissue adhesion



Handpieces for the PlasmaJet system are available in a range of models and sizes for specific open and laparoscopic surgical needs. All are delivered in sterile packs for single use.

Experience the Future of Surgery

For more information visit www.plasmasurgical.com or contact Plasma Surgical at one of the numbers listed below.

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