mermaid medical®

Microwave Ablation for BPH (Benign Prostatic Hyperplasia)

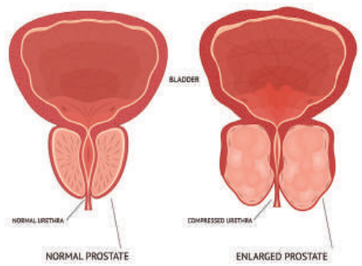
MaxBlate®
Microwave Ablation Therapy for the Prostate

What is BPH

Benign Prostatic Hyperplasia (BPH) is a non-cancerous enlargement of the prostate gland, commonly occurring as men age.

It can lead to urinary symptoms such as weak flow, increased frequency, urgency, and nocturia.

BPH affects morethan 50% of men over 60 and up to 90% over 80 years old.



How MWA works

Microwave ablation refers to the use of the electromagnetic methods for inducing tumor destruction by using devices with frequencies of at least 900 MHz to produce tissue-heating effects [1]. Currently, 2450MHz is the frequency used by mainstream products worldwide.

Microwave Ablation Therapy for the Prostate is a minimally invasive treatment that uses targeted microwave energy to selectively heat and reduce excess prostate tissue.

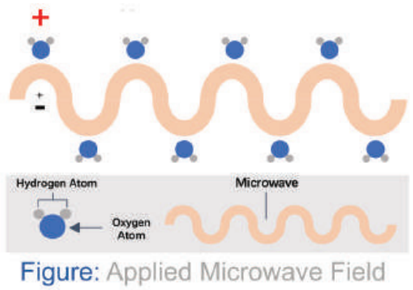
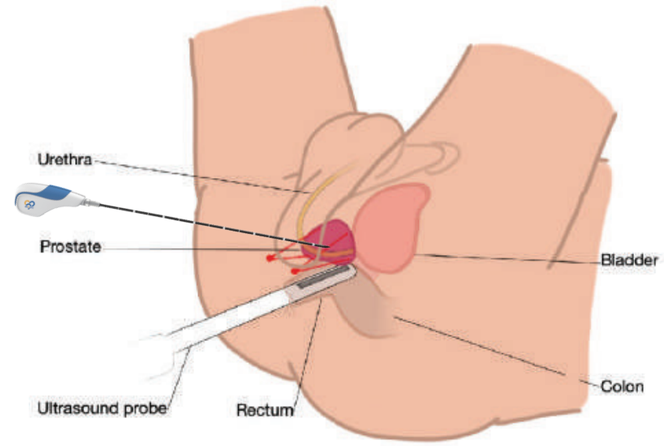


Figure: Applied Microwave Field

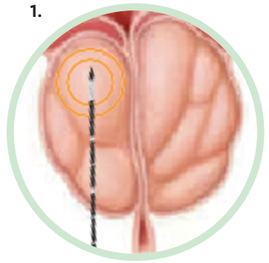
Features:

- Minimally invasive, no surgical incision needed
- Short treatment time and rapid recovery
- Reduced need for long-term medication
- Preserves surrounding structures and typically maintains sexual function
- Suitable for patients who are not candidates for surgery

Transperineal TRUS guided Transperineal Approach

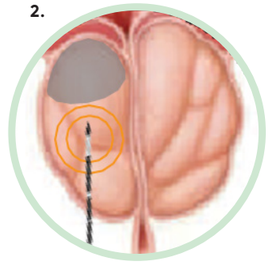


1.



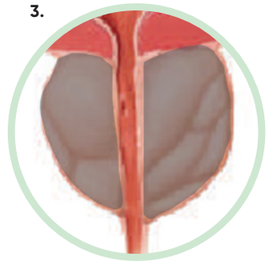
Under real-time Transrectal ultrasound guidance, a MWA antenna is inserted into the lateral lobe of the prostate parallel to the urethra.
Continuous power is being applied while checking the hyperechogenicity of the ablated site

2.



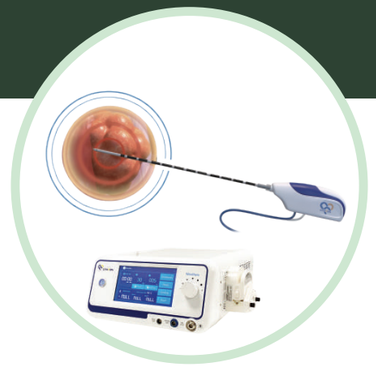
Maintaining a safe distance of 5 mm from the bladder neck, the ablation is first performed at a single targeted point.
The antenna is then pulled back to allow treatment of the more distal portion of the prostate with larger volume. Multiple antenna insertions may be required to adequately cover the entire treatment area within the prostate

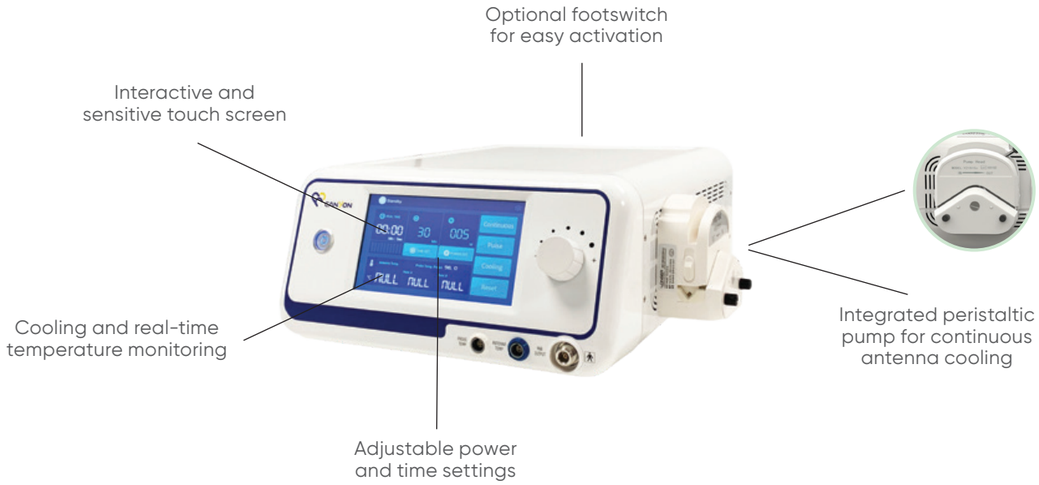
3.



Microwave energy causes hyperthermia and coagulative necrosis of the hyperplastic tissue leading to a reduction of the prostatic volume

MaxBlate®
Microwave Ablation System



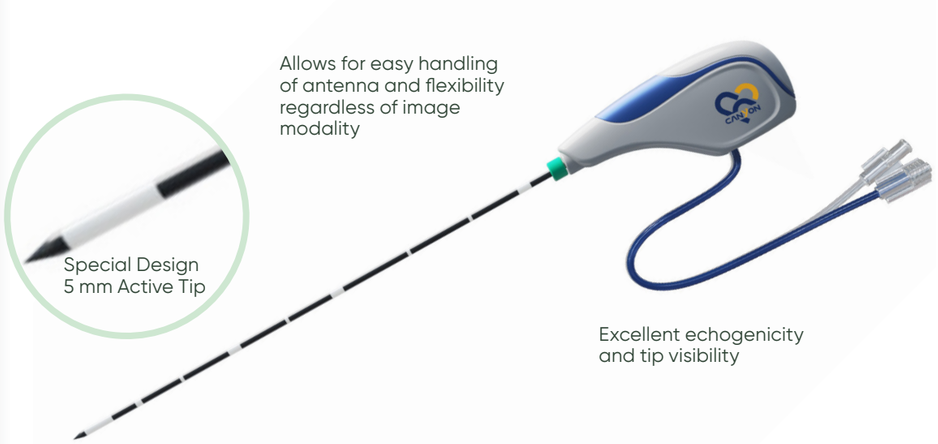


Features:

- Powered by proprietary MaxCore™ inside with ACLC technology and PID algorithm to provide precise and stable MW output.
- IEC 60601-1 compliant for enhanced lectrical safety.
- Portable and compact design for convenient transportation, installation, operation and service maintenance.
- Interactive and sensitive touch screen with adjustable power & time setting.
- Cooling and real-time temperature monitoring as well as other incorporated multi-safety monitoring control.
- Continuous and pulsed modes are available for different clinical options.

Water Cooled Antenna

SureTip® Antennas



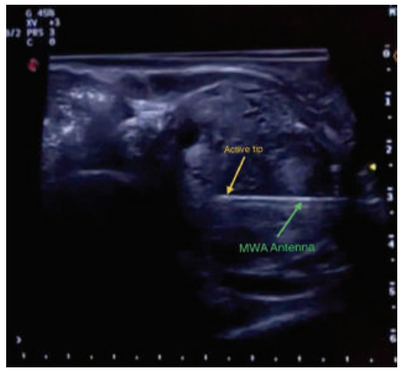
Full-length double layer PTFE coating ensures a smooth puncture movement, and effectively avoids tissue adhesion.

- **MW solid state souce (MaxCore™)**
- **Adaptative closed loop control (ACLC)**
- **PID algorithm**

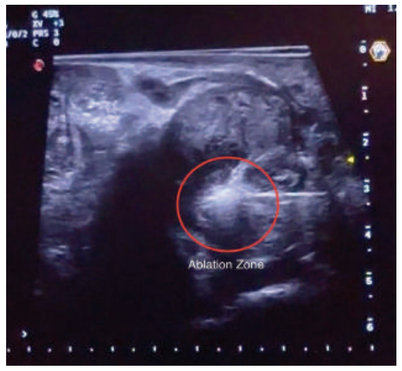
Clinical Cases

TRUS image of 56-year-old patient with benign prostatic hyperplasia (BPH) prior to Microwave ablation treatment.

To facilitate ablation and maintain the integrity of the urethra while preventing thermal damage, a transurethral ^{18}Fr Dufour catheter was placed for washing with normal saline at room temperature.



Antenna is inserted into the geometric center of the lesion, 0.6cm (min 0.5cm) from the neck of the urinary cyst and 1.3cm (min 1.0cm) from the rectum and urethra.



Energy is released continuously for approx 30sec and the treatment effect is ultrasono-graphically translated into a hyperechoic signal. Antenna is pulled-back every 1 cm at 30s intervals.

Ordering and Specifications

MaxBlate®	
Ref	KY-2000A
Frequency	2450 Mhz
Display	7 inch Touchscreen
Energy Output	5-100W
Time Setting	1-30 Minutes
Working Power	100V-240V 50-60 Hz
Weight	12 kg
Size	46x40x18cm
Foot pedal included	

SureTip® Antennas

Ref	Diameter	Active Tip	Total Length
KY-2450A-7	16G	5 MM	100 MM
KY-2450A-11	16G	5 MM	130 MM
KY-2450B-T2	16G	11 MM	150 MM

All antennas come with a compatible coaxial cable

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