

RF Cautery Machine

USER MANUAL



Western Surgical
AN ISO 9001 : 2008 CERTIFIED COMPANY

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The Technique of Radio Surgery involves the passage of high frequency radio waves (4mhz-Megahertz) through soft tissue to cut, coagulate, or remove the tissue. Soft tissue resistance to these radio waves causes the cellular water in the soft tissue to heat, which produces steam, an results in cellular molecular dissolution of individual tissue cells.

RF CAUTERY - 2MHz

Radio Surgery with

High Frequency

Model - RF- B2

The surgeon uses a hand piece with an active electrode (different type of electrodes for different applications) to transmit the radio waves. The radio waves are focussed on the tissue by an antenna plate (Patient plate) that is positioned behind the tissue in contact with patient's skin.

Radio surgery in general practise has many advantages over conventional surgical techniques particularly dermatological, plastic and eye lid surgery, ENT, Dental, quicker operating time; rapid healing, less tissue damage and less post operative discomfort have been observed and its wider use in hospital practise is recommended.

Radio frequency is not to be confused with electro-surgery machine (surgical diathermy) spark gap circuitry unit (electro-cautery) and uses completely new technique compared with scalpal surgery and other techniques and Radio energy does the cutting very light. A very high frequency radio wave 0.3 - 2 MHz and a ine needle or wire loop electrode which is held by the surgeon, radio energy passes between the cautery electrode and patient plate. It is concentrated at the needle end or wire loop electrode, resulting in the release of energy, which produces steam within the cells, thus vaporizing them and dividing the tissues.

Standard Accessories

Monopolar Handle	1No.
Patient plate	1No.
Electrodes Set	1No.
Foot Switch	1No.
Carrying Case	1No.
Hand Switch	1No.
Bipolar Cable	1No.
Bipolar Forcep	1No.

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Specification:

- > Power input 220 volts $\pm 5\%$
 - > Power consumption 150 Watts
 - > Frequency 2 MHz
 - > Maximum Output
 - > HF Monopolar 150Watts on 400 ohm load
 - > HF Bipolar 100 Watts on 100 ohm load
 - > Fulguration 100 Watts on 1000 ohm.
-
- Size: 8 1/2" X 7 1/2" X 4"
 - Weight: 3.5 Kgs

Advantages:

- Minimum heat with no charring resulting in least tissue damage.
 - Cutting & fulguration is optional
 - Minimum blood loss & pain
 - Shock proof.
 - Local anaesthesia is not required on the surface of the skin or in superficial procedures.
 - Sparkless integrated circuit of latest technology for fast and continuous procedures.
 - Pin point cutting capability.

More Advantages:

- Increase Revenue
 - Reduced Stress
- Reduced Operating times
- Pressure - less Cutting
 - No Lateral Heat
- Micro-smooth incisions
- Increased range of procedure

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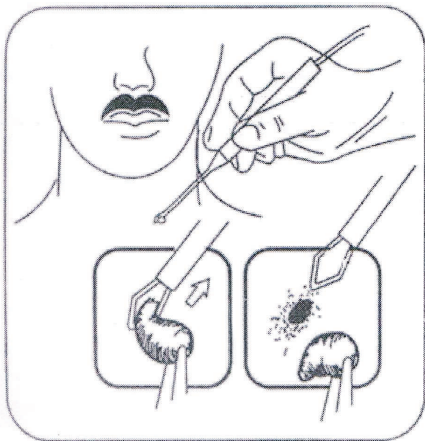
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Various Application of RF cautery.

- Adenoidectomy
- Laryngeal Disorders
- Keloid Surgery
- Nasal Polypectomy
- Nose Bleeding
- Removal Ranula Cyst
 - Snoring
- Tonsil and Adenoid
 - Tonsil tumor
- Wart, Nevus Skin Tumor
 - Adenoidectomy
 - Nasal Mucosa
- Nasal Polypectomy
 - Nasal Tumor
- Procedure Of Snoring
 - R.F. of Palate
 - Tosillectomy
 - Turbinate

Learning Radio surgery: With a piece of beef steak, the doctor can practice most radio surgery techniques, including cutting biopsy & coagulation

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RADIO FREQUENCY SAFETY TIPS



Prior to use:

1. Know which E.S.U. will be used and how to use it. Consult the instruction
2. Manual.
3. Have all equipment and accessories available and use only accessories designed and approved for the unit.
4. Check the operation of the alarm systems. If applicable, check the operation of the return cable sentry prior to placement of the return electrodes.
5. Replace all broken, bent, excessively scratched or otherwise damaged return electrodes.
6. Do not cut, crease or sharply bend a disposable return electrode.
7. Avoid the use of flammable anesthetics. (A warning to this effect should be evident on the E.S.U. cover).
8. Always place E.C.G. electrodes as far away from the site of surgery as possible.
9. Do not use needle E.C.G. electrodes.
10. Replace non-insulated instruments with updated equipment.
11. Check the line cord and plug on the E.S.U. extension cords should not be used.
12. Do not use any power or accessory cord that is broken, cracked, frayed or taped.
13. Use a conductive gel specifically designed for electro surgery.
14. Have backup equipment available.
15. Always place the return electrode on the patient as close to the electro surgical site as possible. Avoid fatty, bony, hairy, heavily areas and bony protuberances.
16. Avoid placing the return electrode where fluids may pool.
17. Do not slide the return electrode under the patient. The patient should be lifted and placed on the return electrode.
18. If the patient has a pacemaker, the return electrode should be as far from it as possible.

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Warts Removal

Mole and skin tag removals are necessary procedures, but do not need to leave noticeable scars and cause great discomfort. Radiofrequency surgery uses high-frequency energy to make cosmetic-enhancing incisions and offers many advantages.

Healing is rapid and virtually bloodless with little or no bruising or swelling. When radio waves are used instead of scalpel or laser, only the cells immediately adjacent to the wire electrode are affected. This results in less bleeding than scalpel and a more comfortable recovery than lasers. Scarring is often minimized or eliminated.

Patient isolation transformer for complete safety. Insulated electrode to minimize pains & Skin damage. Rapid & Painless operation. Linear intensity control (Intensity can be finely adjusted according to your convenience) Can be used continuously for long time. Easily accessible to lesion area by various electrodes. Highly versatile applications. Least intraoperative charring & very clean post operative wounds. Low maintenance costs.

Indication

Ablation of keloides	Skin tags
Epistaxis	Hair restoring surgery
Hemangiomas	Keratoses
Minor varicose veins	Incisions / excisions
Palatoplasty	Biopsies
Tongue lesion removal	Pyogenic granulomas
Forehead lift	Molluscum contagiosum
Resection of mucose membrane defects	Prurigo Nodularis
Achrochordon	Cherry Angiomas

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The use of fully working accessories

- **Before use:**

Before use, all accessories should be carefully checked for visible signs of damage and defects. All accessories must be subjected to regular technical checks, just as for main equipment. Defective and damaged accessories must, without fail, be taken out of service. The safety aspects of combining electrosurgical equipment and accessories from different manufacturers must be

checked before use by someone competent to do so (e.g. manufacturer, test department). A certificate must be issued. Suitable and tested accessories for an electrosurgical instrument are usually listed in the operating instructions for the equipment or in an accessory data specification applicable to the system.

- **During Use:**

1. Use the lowest possible power setting to achieve the desired surgical effect. The need for abnormally high settings indicates something is wrong.
2. Position cords so that they present no tripping hazard. Do not wheel equipment over electrical cords.
3. If the patient is moved or repositioned, check that the return electrode is still in good contact with the patient. (If using an adhesive electrode, make sure the gelled area is in good contact, not just the adhesive border.)
4. When active accessory is not in use, remove it from the surgical field and contact with the patient. (With most of today's generators, all outputs are "hot" when one is activated.)
5. Do not coil up active or patient cables – this will increase R.F leakage current and present a potential danger to the patient.
6. Do not spark the active electrode to ground to confirm operation of the unit. This may damage the unit or introduce a patient hazard.
7. Do not active the electro surgical unit for long lengths of time.
8. Avoid "buzzing" forceps and creating a metal-to-metal arc. Touch the forceps with the electrodes and then activate the generator. (This will eliminate the majority of "jolts" to the surgeon.
9. Only use endoscopes with insulated eyepieces.
10. Keep active electrodes clean. Escher build-up will increase resistance, reduce performance and require higher power settings.
11. Do not submerge the active accessory in liquids. This may cause the accessory to activate.

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- After use:
 1. Turn the unit off.
 2. Turn all dials to 0.
 3. Disconnect all cords by grasping the plug, not the cord, disconnect the power supply cord first.
 4. Coil electrical cord when sorting; don't bend or kink them.
 5. Do not reuse disposable accessory.
 6. Routinely replace all "permanent" cable at appropriate intervals – every three four months, depending upon usage rate.
 7. Wash all reusable accessories with the damp cloth. Do not immerse or soak.
 8. E.T.O. sterilized accessories if possible this will prolong their life.

INSTRUCTION REGARDING THE APPLICATION OF THE PATIENT PLATE

1. The patient plate including cable and plug must always be in perfect condition. Above all, care should be taken to ensure that the surface of any reusable patient plate is clean and metallicly bright.
2. Careful consideration should be given to the positioning of the electrodes and their connections. The high – frequency current path through the patient must be as short as possible. Therefore the patient plate should be positioned with its entire area covering the patient as close as possible to the operating area. The diagram shows the most suitable points of application on the upper arms or thighs for the appropriate operating areas.

Do not apply the neutral electrode to bony or hairy areas. Hairy areas should be shaved off before application.
3. The electrical conductivity of the skin in the area of the patient plate should be improved by cleaning away oil grease, massaging or brushing to improve the circulation and by carefully rubbing in saline solution.
4. Do not attach the patient plate directly over large blood vessels close to the skin. Attach the patient plate securely, so that even when the patient moves the whole fixture area is secure. Make sure that there is no excessive contusion, which could lead to necrosis resulting from lack of circulation.
5. Areas subject to considerable secretion of sweat, body extremities lying against the trunk or skin-to-skin contacts should be separated by the application of dry cloth. Drain of urine with a catheter.

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6. During electro surgery, the patient must not come into contact with electrically conductive objects, such as the operating table supports, damps cloth etc. A thick, dry, electrically – insulating sheet must be placed between the patient, the operating table and the supports. During electro surgery, these sheets must not become damp.
7. If the patient is connected to a monitoring device during electro-surgery, the ECG electrodes should not be applied too close to the operating area. The distance should be at least 15cm. Instrument leads, which can conduct the RF current away from the patient, must not be applied to the patient during electro surgery.
8. Warning! In the floating mode the neutral ECG electrode must not be connected to the neutral surgical electrode, but should be placed as far as possible away from it.
9. The cable between the patient plate and the surgical unit must be as short as possible.

4.2. PREVENTIVE MAINTENANCE

• Generators

1. Do not use the top of the generator as a table. Fluids can enter the generator.
2. Keep the generator and foot switch clean. Use a damp cloth and mild detergent. Do not use solvents.
3. Coil the power cord when not in use.
4. Unplugged the power cord by grasping the plug, not the cord.
5. Have a qualified Biomedical Engineer inspect the unit at least every six month.
6. If an E.S.U. is dropped, it should not be used until inspected by Biomedical Engineer.

• Accessories

1. Establish procedures for cleaning and sterilization per manufactures recommendation.
2. Replace adopters that do not provide write connections.
3. Inspect “Permanent” cords and cables for clerks in insulations.
4. Rotate your stock of pre-gelled return electrodes according to lot numbers.

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4.3. TROUBLESHOOTING

- Introduction:



DANGER: UNDER NO CIRCUMSTANCES SHOULD THE CASE OF THE SSE-TUR OPENED EXCEPT BY QUALIFIED SERVICE PERSONEL. THERE IS POTENTIALLY HARMFUL VOLTAGE INSIDE THE CASE.

NO USER SERVICEBLE PARTS INSIDE THE CASE.

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7.3 WARRANTY CERTIFICATE

western surgical product is warranted to be free from electrical and mechanical defects in material and workmanship, under normal use. The western surgical product must not have been moved from the site of original installation. A new or remanufactured part to replace the defective part will be provided without charge for the part itself, through an authorized western surgical service dealer. The replacement part assumes the unused portion of the warranty.

WESTERN SURGICAL WILL NOT BE RESPONSIBLE FOR:

1. Damage or repairs required as a consequence of faulty installation or application by others.
2. Damage or repairs needed as a consequence of any misapplication, negligent handling, improper servicing, unauthorized alteration, or improper operations.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive atmosphere, or other conditions beyond the control of western surgical
5. Parts not supplied or designated by western surgical.

Date of Installation	Installed By
Model No.	Serial No.
Warranty Period	
Name of Doctor & Address :	

Customer Sign. With Stamps

Marketed By: Western Surgical
Sign. With Stamps

No Claim Warranty :

- 1) Any Defect Throughout Power Supply
- 2) Any Physical Damage

3) Under Warranty Standby Unit Not Provide

4) Under Warranty When Company Send Parts or Machine we Imidiat send to Buyer.

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