

## **Electrosurgical plate related link**

The high frequency electricity knife negative plate is good or bad judgment

- A. good electrical conductivity. For double negative plate, when folded after resistance should be close to zero, can simulate a single loop state of negative plate.**
- B. colloid uniform and soft. Negative plate surface colloid thickness should be consistent, there should be no bubble appearance of scars, otherwise there will be uneven current conduction.**
- C. stick tightly on the skin, tear off after 3 minutes, there should be no residual colloidal retention on the skin.**
- D. negative plate connection parts should have insulation protection, in order to avoid current at the root of the negative plate directly with skin contact.**

### **Plate connecting**

**Negative plate connection (sub) : common negative plate connection with electrotome the joint between the two kinds, namely square (three legs, VALLEYLAB compatible series) and round head (German type), square head commonly use double circuit in the majority of the negative plate, round head using single loop in the majority of negative plate. Attachment generally USES the metal conductive performance is good, individual manufacturer also USES copper wire connection, but generally used in the line of the negative plate.**

## **The use of the high frequency electricity knife negative plate method**

- 1. Choose vascular rich operation area closest to the muscle (recommended in the artery of the upper arm and thigh) paste to avoid stick on bones, dry skin, joints and artificial ecg electrodes implanted metal parts, or close to the line location to avoid adverse current loop.**
- 2. The first shave their hair again with alcohol to remove the skin oil powder wait for dry after pasting circuit board.**
- 3. Before is not yet ready to put the skin electrode, do not open the packaging. To examine the electrodes and wires. If the product have expired or not the doubt of safety, do not use. Check the expiration date printed on the box.**
- 4. To determine the patient surgery paste position, avoid finger contact surface of conductive adhesive and careful appressed compaction four edges.**
- 5. Determine the circuit board is fully combined with strong.**
- 6. Use the attached line circuit board: will back to the line on the attached connector, and determined the deputy joint is inserted into the loop jacks.**  
**Use not attached line circuit board: examine whether back to route is good, open the clamp placed loop patches is clamped then gently pull to determine not loose, insert the joint circuit socket.**
- 7. When using the double circuit safety monitoring and control system must start at the same time, if use other labels must comply with the other security monitoring system operation.**
- 9. The circuit board vertical paste on the direction of current from the operating position.**
- 10. Plate electrode size selection criteria: no matter adults, children or infants should try to use all possible paste maximum size of the circuit board. If the circuit board paste position is the upper arm or leg, should avoid from their own touch or overlap of the circuit board.**

## **There may be a risk when using negative plate**

The principle of negative plate. Pictured above, is the role of negative plate by the high frequency electricity knife pettifoggery intensive current flowing into the human body back to the high frequency electricity knife dispersion lead to the human body, to form a complete circuit. When the negative plate area, the greater the negative plate connected to the human body, the better, as, the negative plate connected with human interface, the current density is smaller, its current heating effect is weaker, the safer for patients. On the contrary, such as the picture on the right is the stronger the thermal effect, the negative plate, the higher the temperature the greater the chance of burn patient. Once a class between patients with negative plate electrode object exists, is fully converged to the kind of electrode current, its thermal effect at this time the same as the electrotome pettifoggery, will form burns on the patient.

1. The greater the negative plate area, the lower current density. The smaller contact area can make the temperature of the organization. Experimental results show that when the current density of more than 10 per square centimeter ma at this point, you can cause damage to the organization, the bone prominent place, as long as 50 ma per square centimeter, can produce burns. So be careful when pasting negative plate, as far as possible the negative plate and the patient's skin contact area is the largest, as much as possible to ensure that there is no electrode negative plate and between the patient and iron conductor, debris or other possibilities to produce the current crowding.

2. In general, electric knife to burn is common, can be divided into primary, secondary and tertiary depends on current strength and the contact time, the person that weigh can make tissue necrosis. Electric cauterization of parts of the organization will harden is transparent the sunburned. Skin after injury, first appeared pale appearance. After 24 hours, will fully felt hurt. Injured area would blush and

will be very painful, will eventually become eschar. But general electric cauterization restore slower, if necessary, need debridement and skin graft, then may slow.

3. Too much current (power) by organizing will generate heat, this is also cause burns and scalds hidden trouble. Individual electrotome is ok according to the change of the different parts of the impedance, automatic power control (P0 - LAR technology), electric knife characteristic curve is given here, we can see that under the small power (35 w), under the different impedance of power consistency, but in 300 watts, with the increase of resistance, power significantly reduced. To be on the safe side, doctors can ask the manufacturer for electric knife characteristic curve.

4 statistics show that 70% of the electricity burns are associated with the connection of negative plate. Therefore, in order to avoid the risk of burns caused by negative plate connection, we must strengthen the risk consciousness of negative plate,