

## ELECTRODE HYGIENE & REPLACEMENT

**ELECTRODES** are the vital link between the electrosurgical unit and the tissue being treated because the electrodes actually conduct the electrosurgical therapeutic current into the tissue.

Thus, there are two aspects to electrode hygiene, the main one being biological; hence the need to autoclave them to prevent cross infection. Not as obvious is mechanical: the electrode must be mechanically clean in order to fulfil its electrical conductivity requirement.

If the portion of the electrode which is gripped in the handpiece becomes tarnished (oxidized) then its ability to conduct therapeutic current is compromised. Similarly, protein accretions on the active tissue contact portion of the electrodes will also compromise electrical conductivity to the point where the electrode may not function at all. Autoclaving accelerates the formation of oxidation and does not remove protein deposits.

So, the questions then become, “How do I get the most practical use out of reusable electrodes?” and “When is it time to replace them?”

First, to get the most use out of electrodes follow the advice in the “User’s Manual” for the electrosurgery unit, i.e., use optimal electrosurgical therapeutic dose titration to minimize accretions on the active surfaces of the electrode.

Additionally, mechanically clean the electrodes prior to autoclaving. In the interest of protecting the user from biological cross infection, use gloves and wash the electrodes in a quaternary disinfectant mixed according to vendor instructions. Next, mechanically clean the electrodes using maroon “Scotchbrite” pads cut into strips. Allow adequate drying time after autoclaving to preclude latent moisture from inducing oxidation.

Please remember that mechanically cleaning the electrode with an abrasive pad will leave microscopic scratches on the surfaces. These scratches will accelerate protein deposit adhesion and eventually reduce the time interval between cleanings. The consequence is that although reusable electrode life may be extended, it is not infinite.

“When to replace?” Although replacement will vary depending upon the frequency of use, a practical rule of thumb is to replace electrodes every six months for a busy practice and at least once per year for all other usage.



How do I know that an electrode has problems?

This electrode has protein accretions so significant that it may not function at all unless mechanically cleaned.

How do I know that an electrode is reaching the end of its life?



The electrode on the left is new.

The electrode on the right shows protein deposits on the active surface which inhibit the full flow of therapeutic current.

Additionally, the brass portion of this electrode which is gripped by the handpiece shows noticeable tarnish (oxidation) which likewise inhibits the full flow of therapeutic current into tissue.

Note also the distortion of the insulation near the active portion of the electrode surface.



*Your partner in providing clinical excellence*

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