



EC3[®] Conductive Adhesive Gel Application Protocol

Purpose

Are there alternative products for adhering electrodes other than collodion and EC2® for extended EEG studies?

Alternative Electrode Application Adhesive

EC3® Conductive Adhesive Gel (Natus) is a viable alternative for applying electrodes.

EC3 Gel Description

EC3 is a conductive adhesive gel with the following properties:

- Clear gel
- Tacky consistency
- Dries < 1 hour
- Mint scent
- Non-toxic
- Water soluble

Application Procedure

Global Neuro-Diagnostics' application procedure is as follows:

- Squeeze between 5 & 10 mL of EC3 conductive adhesive gel into a 10 mL needleless syringe
- Prepare the skin as usual
- Cut Cover-Roll Stretch (BSN Medical GmbH) into 2 inch by 1.5 inch rectangles
- Fill the 10 mm cup electrode with a conductive paste such as Ten20® (Weaver and Company), Elefix (Nihon Kohden) with an amount allowing the electrode to sit on a small mound of Ten20
- Remove the paper from the rectangle piece of Cover-Roll Stretch, exposing the adhesive side
- Using the syringe, squeeze 2 amounts (amount should cover electrode) of EC3 (at each end of Cover-Roll Stretch), onto the adhesive side of the Cover-Roll Stretch
- Place the Cover-Roll Stretch, adhesive side down over the electrode (Ensure that EC3 covers the electrode cup)
- Using fingers, press around the cup of the electrode and the tail of the electrode, redistributing the EC3. The process will adhere the electrode and its tail (lead) to the scalp.
- As with all conductors, take care during application to ensure that no conductors touch, which can create bridging and/or cancellation of signals
- Wrap the head with Dermacea®, Elastomull® or another stretch bandage once all electrodes are applied
- Tape the head wrap to secure it in place for the duration of testing

Conclusions

EC3 is convenient to use. There is no collodion odor or skin breakdown. An air compressor is not required. EC3 is water soluble, so electrode removal is easy. The use of EC3 allows electrode application without use of hazardous products (collodion and collodion remover). EC3 reduces the safety risks for the EEG Technologist and patient, creating a safer environment for electrode application. We have monitored patients with many seizure types in an in-home ambulatory setting. Electrodes have remained secure during a 72hr in-home ambulatory EEG both on adults and children. EC3 has remained secure with short, long, thin and thick hair.

References

EC3 Conductive Adhesive Gel (Natus Medical Incorporated)

Cover-Roll Stretch (BSN Medical GmbH)

Ten20 (Weaver and Company)

Elefix (Nihon Kohden)



Local Education for a Global Audience

neuro.natus.com/academy

natus.
neuro

Natus Neuro

3150 Pleasant View Road
Middleton, WI 53562 USA

Tel: 1-800-356-0007

1-608-829-8500

Fax: 1-608-829-8709

neuro.natus.com