

American study found lack of standardization in cleaning of electroencephalography (EEG) electrodes and no method to ensure reusable electrodes without bacterial growth

A recent multicenter study published in the American Journal of Infection Control found bacterial growth on 25% of cleaned, ready-to-use electroencephalography (EEG) cup electrodes and concluded that reusable electrodes pose a risk of patient cross-contamination.

Electroencephalography (EEG) cup electrodes are placed directly on the patients' skin that may be non-intact following abrasion and are categorized as a semi-critical device. It is essential that they are clean and free from bacteria and a follow-up study sought to identify safe cleaning practices.

This study compared nine different characteristics of cleaning practice: transportation time, wait time pre-cleaning, storage

pre-cleaning, disinfection time, cleaning time, bundled cleaning, drying practice, drying time, and storage post-cleaning. Prolonged drying time was associated with a higher positive culture rate indicating that air drying of reusable electrodes should be avoided; it is better to use a clean towel. However, microorganisms were present on cleaned EEG electrodes from all four centres regardless of different cleaning and drying practices (in 23.3, 13.3, 43.3, and 20.6 % of cases in centre A, B, C, and D, respectively).

The researchers end the paper by discussing whether avoiding microorganism growth by switching to disposable EEG electrodes could be a way to improve patient outcomes.



1. NMM Albert et al. Am J Infect Control 2018, Contamination of Reusable EEG Electrodes: A Multi-Center Study

2. NMM Albert et al. Neurodiagn J 2018, Reusable Electroencephalography Electrodes: Variability in Cleaning and Reprocessing Practices