

PERFORM Operating Document
Signature Page

**Routine Cleaning, Disinfecting
and Maintenance of EEG Electrodes**
PC-POD-FA-007-v01

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PERFORM Operating Document

Routine Cleaning, Disinfecting and Maintenance of EEG Electrodes

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Revision History

Version	Reason for Revision	Date
01	New POD	Dec /17/2015

Summary

The content of this PERFORM Operating Document (POD) provides guidelines for cleaning, disinfecting and maintaining EEG electrodes with Bleach (5.25% Sodium Hypochlorite) or alternatively with Cidex OPA Disinfecting Solution.

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I. Definition of Terms

EEG	Electroencephalography
Instructor	Person that has attained an adequate level of certification and expertise which qualifies them to supervise and teach students.
PERFORM	The PERFORM Centre at Concordia University
PERFORM operating document (POD)	Operating documents that are specific to an instrument or technique that require approval by area managers.
Project Lead	The project lead is the person who is responsible for all aspects of a given project at PERFORM
Users	Person using space or equipment at the PERFORM Centre that has received adequate technical and safety training.

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2. Introduction

2.1 Background

Gold-plated cup electrodes are commonly used as measurement of electrical activity of the brain during an electroencephalography (EEG) and to determine sleep/wake states during a polysomnography (PSG) sleep study.

2.2 Purpose

To establish a standard procedure for the routine cleaning, disinfection and maintenance of EEG electrodes.

2.3 Scope

This POD applies to all users and supervisors using gold plated cup EEG electrodes at the PERFORM Centre, Concordia University.

2.4 Responsibility

It is the responsibility of the user to properly clean electrodes after use and to complete requisite training on EEG/PSG.

2.5 Equipment

- ♦ Q-tips or soft tooth brush
- ♦ Timer
- ♦ Hot tap water
- ♦ Sodium Hypochlorite (Household Bleach) - diluted 1:500 in water
- ♦ Antiseptic wipes
- ♦ Gloves

2.6 Procedure

1. Remove tape and gauze from electrodes.
2. Allow electrode cups to soak in hot soapy tap water until the majority of electrolyte paste has dissolved from electrode cup.
3. Use a Q-tip, gloved fingers or soft toothbrush to remove any excess paste.
4. Using warm tap water, thoroughly rinse electrodes.
5. Disinfect the electrodes in Bleach (5.25% Sodium Hypochlorite)
 - a. Soak the electrode cup in a 1:500 dilution of household bleach for less than 1 hr. (*Adding 2 milliliters of household bleach to 1 liter of water will provide the 1:500 ration required.*)
 - b. Rinse electrodes using warm tap water.
 - c. Clean electrode leads (wire part) with an antiseptic wipe (wear gloves).
 - d. Store/hang the clean electrodes until needed for next application.

<http://www.grasstechnologies.com/knowledgebase/sterileI0.html>

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3. Alternative: Cleaning Electrode with Cidex OPA Disinfecting Solution

3.1 Purpose

To establish a standard alternative procedure for disinfecting electrodes with **Cidex OPA Disinfecting Solution** (containing 0.55% ortho-phthalaldehyde) instead of Sodium Hypochlorite (bleach).

3.2 Additional equipment

- Bucket & Tray [made from polypropylene, acrylonitrile-butadiene-styrene (ABS), polyethylene, glass-filled polypropylene and/or polycarbonate plastics]
- Protective Equipment (latex gloves, synthetic copolymer gloves, nitrile gloves or butyl rubber gloves, lab coat, eye protectors)
- Tap Water

3.3 Procedure

- Follow steps 1- 4 in section 2.6 above for cleaning the electrodes from debris.
- Remove excess moisture prior to disinfection.
- Using CIDEX® OPA Solution
 1. After opening the bottle, pour solution into an appropriate container (Section 3.2 Additional equipment).
 2. **Record the date** the bottle was poured from the original (The remainder of solution in the original bottle can be **stored up to 75 days**).
 3. Record the date and the **date its reuse life ends** (not to exceed **14 days**).
- Disinfection
 1. Immerse clean electrodes completely in the CIDEX OPA Solution
 2. Soak electrodes for **12 minutes** at room temperature 20°C
- Rinsing
 1. Following disinfection, rinse electrodes thoroughly with tap water.
 - Repeat for a total of **3 rinses**.
 2. Each rinse should be a minimum of **1 minute** in duration, and a large volume of fresh water (e.g., 2 gallons) must be used for each rinse.
- Dry the electrodes
- **Re-Use** of the Solution
 1. CIDEX solution should be tested before each **re-usage** with CIDEX® OPA Solution Test Strips to verify that the appropriate concentration of ortho-phthalaldehyde is present.
 2. CIDEX solution must be discarded after **14 days** even if Test Strips indicate a concentration above the Minimum Effective Concentration.

Disposal - CIDEX Solution can be discarded down hospital and office drains in accordance with local regulations. (www.cidex.com; Customer Support at 1-888-783-7723).

APPENDIX I

POD Training Record Form

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POD Title

**Routine Cleaning, Disinfecting and Maintenance of
EEG Electrodes**

SOP Code

Ownership	Document type	Area	SOP Number	Version
PC	POD	FA	007	V01

Training Record

Full Name	
Institution	
Contact (email or phone number)	

Signature

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Date