

Telephone artifact in EEG recordings

N Sethi, P Sethi, J Torgovnick, E Arsura

Citation

N Sethi, P Sethi, J Torgovnick, E Arsura. *Telephone artifact in EEG recordings*. The Internet Journal of Neuromonitoring. 2006 Volume 5 Number 1.

Abstract

The electroencephalogram (EEG) is meant to record cerebral activity but it also picks up electrical signals arising from extracerebral sites. The EEG record is frequently contaminated by electrical signals arising from the immediate patient environment giving rise to non-physiological artifacts. Non-physiological artifacts commonly arise from monitoring devices like infusion pumps and suctioning devices though electrical devices like mobile phones may also contaminate the EEG record¹. During inpatient video EEG recording of a patient, intermittent 30 Hz sharply contoured waveforms lasting 2 seconds were visualized (Fig 1,2) .

Figure 1

Figures 1 & 2: EEG recording showing low amplitude sharply contoured waveforms lasting on an average 2 seconds and corresponding to the frequency of the telephone ring.



Figure 2



Upon viewing the video image these sharply contoured waveforms were correctly identified as a non-physiological artifact generated by the telephone ringing in the patient's room. Further more the frequency of the artifact matched the frequency of the telephone ring. Recognition of these artifacts is important to avoid misinterpretation of the EEG and erroneous treatment decisions.

CORRESPONDENCE TO

Nitin Sethi, MD Comprehensive Epilepsy Center NYP-Weill Cornell Medical Center 525 East, 68th Street New York, NY 10021 e-mail: sethinitinmd@hotmail.com

References

1. Sethi PK, Sethi NK, Torgovnick J. Mobile phone artifact. *Clin Neurophysiol*. 2006; 117(8):1876-8.

Author Information

N. K. Sethi, M.D.

Comprehensive Epilepsy Center, NYP-Weill Cornell Medical Center

P. K. Sethi, M.D.

Department of Neurology, Sir Ganga Ram Hospital

J. Torgovnick, M.D.

Department of Neurology, Saint Vincent's Hospital and Medical Centers

E. Arsura, M.D.

Department of Medicine, Saint Vincent's Hospital and Medical Center,