

Telephone artifact in EEG recordings

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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.

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References

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