

## **Electromagnetic Interference of Cellular Phones with Medical Devices in Hospitals: a Review<sup>\*</sup>**

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### **Abstract**

The use of cellular phones as part of the communication systems in hospitals has brought several merits in addition to enhancing the quality of healthcare. Simultaneously, these phones are used on a large scale by people coming to hospitals whether patients or visitors. The aim of this study is to review a sizable part of the existing literature in order to assess the resulting threat of electromagnetic interference between cellular phones and medical devices in hospitals. Another aim is to identify the needed procedures to be applied in order to limit the hazardous side effects of this interference. The reviewed studies are ordered chronologically from the older to the most recent ones. This study is divided into two main sections, the first covers the idea of electromagnetic interference between cellular phones and medical devices while the second covers the possible effect of the use of cellular phone on the hospital design. Prior to these two sections, the introduction is presented and following is the conclusion and suggestions for future work. The majority of the reviewed studies point that electromagnetic interference is a reality and require attention as several cases were observed particularly in critical areas some of these cases were life threatening for the patient. Keeping a safe distance between cellular phones and medical devices was the minimum required procedure.

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**Keywords: Cellular Phones, Medical Devices, Hospital, Electromagnetic Interference**

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