Potential for Mobile Services to Interfere with Medical Equipment

At separations greater than 1-2m the possibility of mobile phones causing interference to medical devices is substantially reduced. It is technically possible for mobile phones to be used in designated areas of hospitals, however, warning signs and the instructions of hospital staff should be obeyed. The GSMA is not aware of any confirmed reports of interference to medical electronics by base stations on hospital rooftops.

Use of Mobile Phones Near Medical Equipment

A small minority of medical equipment may experience interference from nearby electrical and radio devices including 2-way radios and mobile phones (cellphones). At distances greater than 1 to 2 m the possibility of interference to medical equipment is substantially reduced. A 1997 study in the UK found ‘...only 4% of devices suffered interference from cellphones at a distance of 1m, with less than 0.1% showing serious effects.’

Neither the Medicines and Healthcare products Regulatory Agency for the UK nor the American Medical Association currently support blanket bans on mobile phone use in hospitals. Both organizations encourage hospitals to develop local rules to minimise the risk of interference to medical equipment. Some hospitals request that all visitors and medical staff turn off their mobile phones when entering the facility, while others restrict usage only in specified areas.

Mobile Communications Base Stations

The 2nd and 3rd generation base station antennas on hospital rooftops direct most of their signals outwards, resulting in low signal levels within the hospital building. The 1997 UK report concluded:

Cellular base stations (the arrays of aerials on the roofs of tall buildings which relay mobile phone messages to the telephone system) are unlikely to interfere with medical devices, unless they are exceptionally sensitive...

The GSMA is not aware of any confirmed reports of interference to medical electronics by base stations on hospital rooftops. In addition, in-building antenna
systems can be designed to ensure that mobile phones in hospitals operate significantly below their nominal maximum power and this would further reduce potential interference risks.

Relevant Standards and Guidance
The current international (IEC) standard for medical devices specifies immunity levels (80-2500 MHz) of 3 V/m (non-life support) and 10 V/m (life support) equipment. Some items of older equipment may not achieve these levels of immunity and other items will have substantially greater immunity. A recent ISO technical report provides recommendations for the management of possible interference in health care facilities and can assist in dialogue between hospital authorities and the designers of wireless communications systems.

GSM Association Position
At separations greater than 1 to 2m the possibility of interference by mobile phones to medical electronics is substantially reduced. It is technically possible to use mobile phones in designated areas of hospitals, but the public should obey any warning signs and the instructions of hospital staff. If electrical medical equipment is used at home, the GSMA recommends seeking the advice of medical staff or the equipment supplier. The GSMA is not aware of any confirmed reports of interference to hospital electronics by base stations antennas on rooftops.

Where to go for more information


(14 November 2006)