Wi-Fi No Threat to Implanted Cardiac Devices

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CHICAGO — The mushrooming proliferation of wireless computer networks poses no clinically significant threat to pacemaker or implantable cardioverter defibrillator users, Dr. Fritz Mellert said at the annual scientific sessions of the American Heart Association.

Dr. Mellert, a cardiac surgeon at the University of Bonn (Germany), placed 25 pacemakers and 22 implantable cardioverter defibrillators made by all of the major device manufacturers at varying distances from wireless local area network (WLAN) transmitting antennas in order to study the potential for electromagnetic interference with device function. He subjected the cardiac devices to WLAN transmitting powers of both 100 mW, the upper limit in Europe, and 1,000 mW, the maximum output power permitted by the U.S. Federal Communications Commission.

The good news: All key device programming and telemetry capabilities proved completely immune to interference from WLAN transmissions in his study, which was conducted free of commercial funding.

"Electro-dense shielding, protection algorithms, and sophisticated programming protocols effectively immunize modern devices against Wi-Fi interference. No patient must be fearful when using Wi-Fi in public or a hotel," the surgeon said.

He added, however, that he found that the high-output WLAN permitted in the United States can interfere with certain noncritical pacemaker programming functions, including emergency VVI pacing, when the Wi-Fi antenna is situated less than 10 cm from the device. That's an unlikely scenario, but he recommended, to be on the safe side, that high-output antennas and Wi-Fi access points not be located in or adjacent to outpatient pacemaker clinics. ■