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Potential Adverse Effects of UMTS Electromagnetic Fields
generated by Mobile Phones on the Human Inner Ear: A
European project (EMFNear)

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To answer concerns as to the potential effects of electromagnetic fields (EMF) generated by third generation mobile phones on the inner ear, the European Commission funded project "EMFNear" assessed potential changes in auditory function induced by UMTS field both in humans and in laboratory animals. The purpose of this paper is to present the final outcomes of the project in humans. Normally hearing subjects (18-30 years old) were exposed to 20 minutes UMTS or sham exposure in a double-blind controlled study. Two different EMF field strengths were used: SAR of 0.069 W/kg using a commercially available phone and SAR of 1.75 W/kg using a patch antenna. Audiological assessment, involving pure tone audiometry, distortion product otoacoustic emissions, effects of contralateral acoustic stimulation on Transiently evoked otoacoustic emissions and late cognitive potentials (P300), were performed before and immediately after real or sham exposures. Results showed no effects of acute UMTS electromagnetic fields exposure on the inner auditory system of humans.