

Safety Standards for Workers

This lecture will focus on safety issues regarding workers in the MRI suite. The need to perform relative occupational risk assessment but also to care about chronic exposure effects will be pointed out. In particular, exposure to static and variable magnetic fields will be discussed. The overall framework legislation for Health and Safety of Workers as well as the latest ICNIRP guidelines, for limiting exposure to electric fields induced by movement of the human body in a static magnetic field and by time-varying magnetic fields below 1 Hz, will be reviewed. Additionally, Directive 2013/35/EU will be considered. Although this Directive excludes MRI systems from the application of the exposure limit values, it prescribes a scheme of increased surveillance. Measurements of exact occupational exposure levels and the investigation of various working conditions scenarios will be presented as part of the risk assessment procedure in the context of increased surveillance for workers. This lecture will also refer to the acoustic noise in the MRI environment, as a potential occupational hazard. In this regard, noise exposure parameters will be defined, noise levels and exposure limits will be reviewed, instrumentation for noise measurements will be presented and noise protection schemes will be discussed.