Current and future ramifications for the MR workplace

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The European Directive on electromagnetic fields, known as EMF Directive 2004/40/EC, was issued on 29 April 2004. Originally, this guideline was to be implemented in national legislation by no later than 30 April 2008. This meant that companies whose work involves the exposure of staff to electromagnetic fields would have to comply with the requirements of this directive.

In the original formulation of the Directive, experts from the field were only involved at the margins. It only became clear in 2006 that the exposure limits stated in the Directive might inhibit the practical use of MRI in healthcare and research. This could have wide-ranging ramifications for the application of this technology, which has been used in patient care for more than 25 years. This undesirable development was also confirmed in various publications by the RIVM [National Institute for Public Health and the Environment] and in an alert from the Gezondheidsraad [Health Council of the Netherlands]. Based on extensive interventions by members of the European Parliament, a large number of scientific organisations and above all numerous patient groups, it was finally decided in April 2008 to postpone implementation of the Directive until 2012. In the context of this postponement, both the content and the consequences of the Directive will be examined, looking in particular at avoiding restricting the use of MRI in practice.

The Netherlands, together with the UK, has played an important positive role in the postponement process. Those responsible within SZW [Ministry of Social Affairs and Employment] acknowledged the negative effect of the Directive on the use of MRI in patient care at an early stage. Based on their recommendation, a working group was set up comprising representatives from employers’ and employees’ organisations plus a number of additional experts, with the aim of developing practical rules defining safe ways for employees to work with MRI. These practical rules could be the basis for drawing up an Arbocatalogus [Health and Safety Catalogue].

The Working Group has defined the rules of conduct described in a document in an exceptionally constructive and progressive way; the Working Group is convinced that if the practical rules are observed, the safety of staff during current working practices and according to the current state of knowledge is sufficiently guaranteed. Exposure limits will not be discussed because of the ongoing international discussions about how high these limits should be.

To be able to work safely with MRI, it is important that staff are aware of the safety aspects and handle them appropriately. Organisational and technical measures are needed in order to reduce the potential hazards. The guideline describes the various safety aspects and the corresponding practical rules.

The guideline has been drawn up by the MRI Working Group:

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The purpose of the guideline is to protect all employees who are involved with MRI and to do so at the most practical level possible. The guideline is widely spread and brought to the attention of those who are involved in the discussion about changes to the EU Directive for the protection of employees from the dangers of exposure to electromagnetic fields. In the guideline a summary is given of the various situations in which employees can be exposed to magnetic fields due to the application of MRI. The possible effects that could arise when working with MRI scanners are then listed. Finally, precautions are recommended for each of these effects, grouped according to the working situations.

Learning Objectives:
1. To understand the impact of the EU-Directive for MRI practice
2. To learn about the objectives and relevance of the Dutch guidelines “Using MRI safely”, practical rules for employees.
3. To gain awareness of the importance to avoid exposure of workers as reasonable practicable.

References:
ICNIRP. Guidelines on limits of exposure to static magnetic fields. Health Phys, 1994, 66(1) 100-106.
ICNIRP. Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz). Health Phys, 1998, 74(4) 494-522.