FUTURE CHALLENGES IN NIR PROTECTION

Paolo Vecchia

National Institute of Health, Rome, Italy

Chairman of ICNIRP

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ACTIONS FOR THE NEXT FUTURE

- Research
- Revision of guidelines
- Monitoring the developmnent of new technologies
- Advice on precautionary policies
- Risk communication

RESEARCH

Research priorities have been identified by means of:

- Workshops jointly organised by WHO and ICNIRP
- Expert panels appointed by national authorities
- WHO research agenda
- EMF-NET research agenda

Research priorities focus on:

- Effects of electromagnetic fields on children
- Hypersensitivity and subjective symptoms
- Exposure to new sources

REVISION OF GUIDELINES

Review of the scientific literature:

- ICNIRP (blue books)
- IARC (cancer effects)
- WHO (overall risk evaluation)

Update of guidelines:

- Global revision (upon completion of reviews above?)
- Partial update
- Refinement and clarification (statements)

WHY TO REVISE A STANDARD?

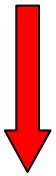
- New scientific evidence (new effects, changes in thresholds, refinement of dosimetry)
- New technologies (revision of safety factors, possibility of relaxation)
- Outdated research database

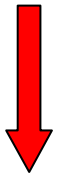
Social pressure should not be a reason for revising science-based standards

UPDATE OF GUIDELINES – STATIC FIELDS

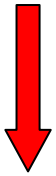
ICNIRP (Blue Book) 2003

IARC (Monograph) 2002





WHO (Environmental Health Criteria) 2006

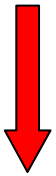


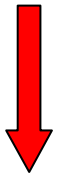
ICNIRP (Guidelines) 2008

UPDATE OF GUIDELINES – ELF FIELDS

ICNIRP (Blue Book) 2003

IARC (Monograph) 2002





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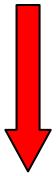
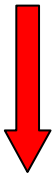


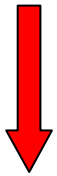
ICNIRP (Guidelines) 2009 (?)

UPDATE OF GUIDELINES – RF FIELDS

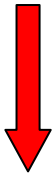
ICNIRP (Blue Book) 2009

IARC (Monograph) 2010 (?)





WHO (Environmental Health Criteria) 2011 (??)



ICNIRP (Guidelines) 2012 (???)

REFINEMENTS OF ICNIRP GUIDELINES

- adjustment of RF basic restrictions
- reduction factors (adjustment and clarification)
- interpolation across frequency ranges
- body mass for averaging SAR
- clarification on peripheral organs (e.g. pinna)

MONITORING NEW TECHNOLOGIES

The impossibility of comprehensive a priori analyses should not prevent preliminary investigations and interim advice, which will be refined with the advancement of knowledge.

Early actions might include:

- assessment of exposure to new sources
- extrapolation of data available for similar situations

IMPLEMENTATION OF PROTECTION STANDARDS

- Harmonization at the international level
- Technical guidelines (identification of sources, measurement procedures, exposure assessment)
- Flexibilty (relaxations?)
- Medical surveillance
- Health monitoring (data collection)

RISK COMMUNICATION

Establishing and maintaining an open and effective communication with all parties involved in EMF issues is a priority for WHO, ICNIRP, and any national or international authority with responsibility in this field.

Such activity includes:

- Scientific symposia and public meetings
- Reports
- Guidelines and statements
- Fact sheets

ADVICE ON PRECAUTIONARY POLICIES

Precautionary actions taken to address public concerns may increase, rather than mitigate, worries and fear

This constitutes a real health detriment, and should be prevented as other adverse effects of EMF

Organisations like ICNIRP can provide useful advice for sensible precautionary policies

UV RADIATION

- Research to clarify possible benefits of UV radiation aboVe recommended exposure limits
- Guidance to health authorities about risks and benefits of solar UV exposure
- Revision current statement on solaria equipment

IR RADIATION

- Research on damage mechanisms of IR cataract
- Investigation of the dose-response curve for erythema
- Research on potential delayed effects from IR-C cabins
- Revision of the relevant ICNIRP guidelines

OPTICAL RADIATION

It is recognized that the determination of appropriate viewing durations and distances under different conditions of use is needed for any optical radiation hazard assessment. The future development of ICNIRP guidelines, which should be applied to realistic viewing conditions, would contribute to reducing unnecessary concerns, as regards for instance laser and light-emitting diode (LED) safety.

SOCIAL INVOLVEMENT

Transparency

Opening to external comments, suggestions and critics

Clear separation of risk assessment and risk management

Clear identification of roles and competences

Open and balanced communication (risks, benefits, social implications)

CONCLUSIONS

Protection against non ionizing radiation must aim at preserving the "state of complete physical, mental, and social well-being" that constitutes health, according to the Statute of WHO

A variety of actions are required to this purpose, that involve international organizations and national Authorities, with different responsibilities but close collaboration