



**World Health  
Organization**

## **Radiation and health – Electromagnetic fields**

### **AIDE-MÉMOIRE**

For enhanced country action on radiation protection from  
electromagnetic fields



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Electromagnetic fields (EMF) are a form of non-ionizing radiation originating from natural sources like thunderstorms and the Earth's magnetic field, as well as human-made sources, such as power lines, mobile phones, TV antennas, and medical devices.

Everyone is exposed to a combination of electric and magnetic fields, and the number of EMF sources is expected to rise with the development of new technologies.

Currently, there is no evidence to conclude that exposure to low-level electromagnetic fields, like those typically found in the environment, poses a health risk. Higher levels of exposure are expected to be regulated by national and international standards. When new EMF technologies are introduced to the market and exposure situations evolve, it is essential to conduct exposure monitoring and health-related research.

#### **WHO support to countries**

- Assesses the health risks of exposure to static and time-varying electric and magnetic fields.
- Advises governments on the development and implementation of national policies and safety standards for EMF.
- Compiles national policies and standards on EMF for both the public and workers.
- Develops communication materials on EMF and its potential impacts for human health.
- Promotes research on the health effects of EMF exposure by developing global research agendas on EMF and health.

#### **✓ Checklist**

##### **Policies & actions**

- ☐ Policies or standards that limit exposure to electromagnetic fields in place.
- ☐ Regular monitoring of EMF levels.

##### **Awareness raising & capacity building**

- ☐ Information about health risks from electromagnetic fields provided.
- ☐ Dialogues with stakeholders conducted.

## Key elements for country action

### Governance

- The health sector needs to cooperate across sectors, such as telecommunications, labour, industry, energy, and urban planning, to effectively manage and minimize exposure to EMF.
- Ensure health gains from sound management of radiation from EMF are considered in all relevant policies outside the health sector.
- Increase awareness about the evidence-based health effects and risks of exposure to radiation from EMF.

### Policies & action

- Establish exposure standards that limit EMF exposures to the public and workers as part of national legislation.
- Monitor EMF levels, especially with the introduction of new technologies.

### Awareness raising & capacity building

- Inform the public about health risks from EMF (from electricity, mobile phones, antennas and emerging technologies), based on scientific evidence.
- Foster dialogue and consider the issues, perceptions and concerns of all stakeholders, while relying on the available evidence.

### Additional information:



<https://www.who.int/teams/environment-climate-change-and-health/radiation-and-health>

### Main resources:

- [Electromagnetic fields](#)
- [Electromagnetic fields and public health](#)
- [GHO. Electromagnetic fields.](#)
- [Radiation: Electromagnetic fields](#)
- [Establishing a dialogue on risks from electromagnetic fields](#)
- [Compendium of WHO and other UN guidance on health and environment](#) (WHO, 2024)

*Please note: This aide-mémoire provides summary information on electromagnetic fields and health. More detail on radiation and other environmental health topics is provided in various other materials.*