

OCCUPATIONAL EXPOSURE TO HIGH FREQUENCY EMF IN PHYSIOTHERAPY FACILITIES.

Part I: (preliminary study)

INTRODUCTION

- ★ The **Directive 2004/40/EC**, which is the 18th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC, lays down minimum requirements for the protection of workers from risks to their health and safety arising or likely to arise from exposure to electromagnetic fields (0 Hz to 300 GHz) during their work.
- ★ According to the **Directive**, the employer shall assess and, if necessary, measure and/or calculate the levels of electromagnetic fields to which workers are exposed

AIM & SCOPE

- ★ The assessment of the occupational exposure in physiotherapy facilities, according to the **Directive 2004/40/EC** on the minimum health and safety requirements regarding the exposure of the workers to the risks arising from physical agents (electromagnetic fields).

7 Health Centres & 1 Hospital
were selected in the area of Bilbao (Spain).

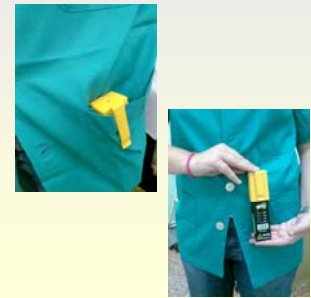


At least, each physiotherapy department has:

- 1 microwave device
- 1 short wave device

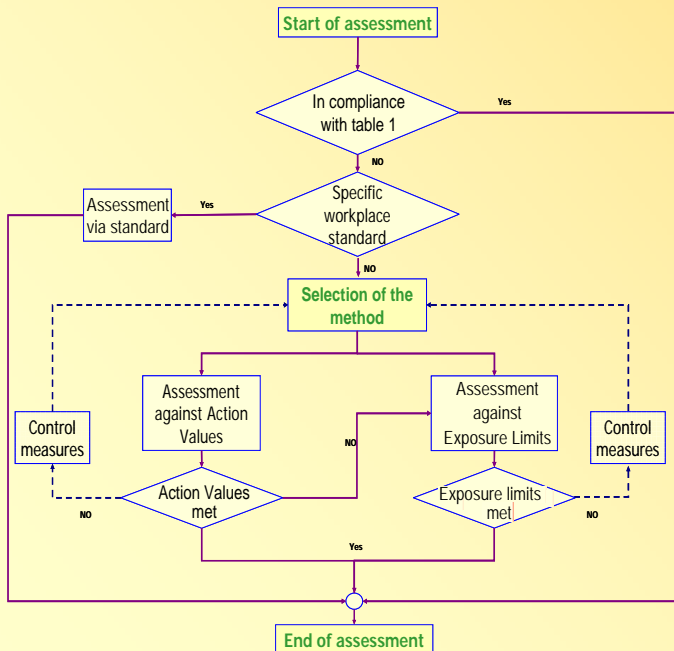


16 Physiotherapists were evaluated

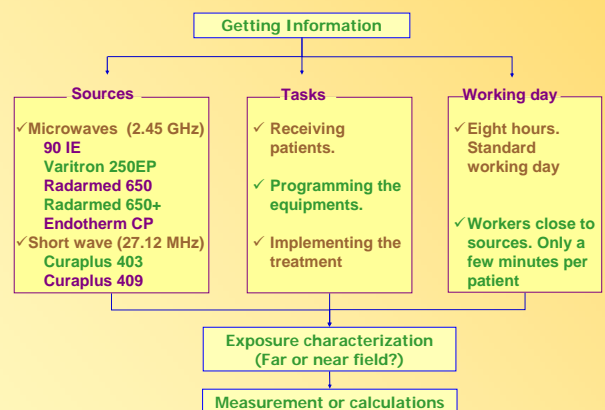


METHODOLOGY

We have followed the flow chart proposed by European Standard PrEN 50499 "Determination of workers exposure to electromagnetic fields"



- ★ Microwave devices (MW) and Short Wave devices (SW) are not included in the table 1.
- ★ There is no specific workplace standards for MW and SW equipments.
- ★ MW and SW are diathermy equipments, are included in table 2 -"Examples of equipment likely to require further assessment".
- ★ The method selected was **ASSESSMENT AGAINST ACTION VALUES**. This method requires :



CONCLUSIONS:

- 1 We have selected personal monitors (**Radman XT ELF immune**), because the staff was walking around the workplace.
- 2 Measuring values shall be **RMS and averaged on 6 minutes** according to the EU Directive 2004/40/EC.
- 3 It is required to measure E-field and H-field, because this is a **near-field region**.

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