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Environmental health in Portugal and in the world

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Materials and methods: Xrf requires a source of x-rays or (-rays, which can then excite x-rays that are characteristic of a particular element in a sample. A detector is placed to collect the scattered x-rays and (-rays from the sample. For Gd measurement, we use 88keV (-rays from a ^{109}Cd source and an array of four hyperpure germanium detectors. For Sr we use x-rays and (-rays from a ^{125}I source, with energies between 22 and 35keV. We use a Si(Li) detector. The effective radiation dose in each of these measurements is less than 1:Sv. This compares, for example to annual background radiation dose of ~1600:Sv in Lisbon.
Results: We measured Gd in tibia of 11 people who had previously received GBCA and 11 control subjects [1]. As a group, the exposed subjects had significantly higher bone Gd than the controls, although the difference was small. We made repeated measurements of bone Sr in ten female volunteers who had chosen to take Sr supplements [2]. Over periods of up to four years, their bone Sr increased dramatically. The increase varied from a factor of ten to a factor of one hundred between subjects.
Discussion and conclusions: We should like to improve the precision of the bone Gd measurement. However, the present system is sufficient to begin to investigate retention and storage of Gd for different GBCAs and in different types of subjects. The dramatic increase in bone Sr following supplementation raises the possibility that providing Sr to people already suffering from osteoporosis is too much, too quickly, too late and that a lifelong dietary adjustment might be a healthier option.

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Environmental health in Portugal and in the world

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According to the World Health Organization, Environmental health addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviors. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments.
Urbanization, population and economic growth have led to changes in the environment and in the way it relates to the human being. The origin of Environmental Health arose then due to the need to create a balance in the Human-Environment relationship. Thus, considering the process of Globalization, Environmental Health also evolved from country to country and continent to continent.
The Environment and Health Process of the World Health Organization, which began in 1989, has had a positive influence on European activities in this field, in particular the preponderant role of the ministerial conferences already held and international workshops, which have enabled the exchange of information and the creation of multilateral partnerships, which facilitates the implementation of the international commitments undertaken.
Every five years, environment ministers and health ministers from the European Region of the World Health Organization meet to make decisions and make commitments in the area of environment and health. The progress of the implementation of commitments made at previous conferences is also assessed.
In line with the recommendations and guidelines within the framework of the World Health Organization and various plans and programs form the European Union, in particular the Sixth Community Environment Action Program (2002 to 2012), the Community action program in the field of public health (2003–2008) and the European Environment and Health Action Plan 2004-2010, the Portuguese Government developed a National Environment and Health Action Plan (PNAAS). The PNAAS 2008-2013 was coordinated by the Ministry of Environment and Spatial Planning and the Ministry of Health, but eight other ministries were involved, given the cross-cutting nature of the issue, ensuring a multidisciplinary approach, strengthening and integrating national policies, inter sectoral collaboration and consolidation of partnerships in the field of Environment and Health. The main purpose of the PNAAS was to provide a better understanding of the relationships between environmental risk factors and adverse effects on health, aiming for gains in terms of the effectiveness of prevention, control and risk reduction policies. The coordinating ministries consider that, with the exception of the

financial constraint, the NAPAA challenges have been found to be largely overcome, often with innovative solutions translated into good practice.
In 2015 the UN defined the 17 Sustainable Development Goals at a summit that brought together world leaders with the aim of adopting an ambitious agenda for poverty eradication and global economic, social and environmental development by 2030, known as Agenda 2030 for Sustainable Development. It should be noted that this Agenda is the result of the joint work of governments and citizens around the world to create a new global model for ending poverty, promoting prosperity and well-being for all, protecting the environment and combating climate change. The 17 Sustainable Development Objectives (ODS), successors of the 8 Millennium Development Goals, which should be implemented by all countries and cover such diverse but interlinked areas, where we can highlight equitable access to quality health services, energy and environmental sustainability, as well as the promotion of effective institutions and stable societies and the fight against inequality at all levels.
The Ostrava Declaration in result with the Sixth Ministerial Conference on Environment and Health taken place on Czech Republic in June 2017, summarizes the priorities in this area in the WHO European Region, and the Member States committed to develop national portfolios for action that should address the need to accelerate progress on health and environment and, in particular, addressing the environment-related health goals and targets of the 2030 Sustainable Development Agenda.
During United Nations Environment Assembly (UNEA), in December 2017, environment ministers adopted a resolution on environment and health, calling for expanded partnerships with relevant UN agencies and partners, and for an implementation plan to tackle pollution.
Regarding this goal, UN Environment Programme (UNEP) and the World Health Organization (WHO) have announced, in Kenya, on January 2018, a collaboration to combat environmental health risks, which claim an estimated 12.6 million lives a year. UNEP- WHO will develop a joint work programme and hold an annual high-level meeting to evaluate progress and make recommendations for continued collaboration. This partnership represents the most significant agreement on joint action related to the environment and health in over 15 years.
Health and wellbeing is influenced by the wider physical environment. By addressing the wider determinants of health, including food safety, housing standards, health and safety, air quality, noise and environment issues generally, environmental health makes a fundamental contribution to the maintenance and improvement of public health.
We need safe, healthy and supportive environments for good health. The environment in which we live is a major determinant of our health and wellbeing. Taking into account the above, it seems that we are walking in the right direction … hoping it will not be too late.

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Multiplex PCR system for fungal pathogen detection

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