



European Society of Skin Cancer Prevention e.V. - EUROSKIN

"Towards the Promotion and Harmonization of Skin Cancer Prevention"

Recommendations from an International Conference held in Hamburg/Germany 2. - 5. May 2000

Introduction

Skin cancer incidence is increasing dramatically throughout Europe. To arrest this trend, a number of campaigns of primary and secondary prevention in the field of skin cancer have been started in several European countries. Because of the widespread importance of this disease, harmonisation and co-ordination of strategies for prevention is desirable. Therefore, in June 1999, the European Society of Skin Cancer Prevention, EUROSKIN, was founded.

In the field of primary prevention the principal aim of EUROSKIN is the reduction of the incidence of skin cancer through the promotion and development of:

- scientific studies relevant to primary prevention
- evaluation of effective information
- solar UVR monitoring programmes
- information programmes throughout Europe

In the field of secondary prevention, the principal aim of EUROSKIN is the reduction of mortality of skin cancer through the:

- development, promotion and evaluation of effective strategies for secondary prevention of skin cancer
- promotion of population-based skin cancer registration, harmonisation of classification and other activities, essential to evaluation of secondary prevention
- uniform application of guidelines

In May of this year, EUROSKIN held its first International Conference addressing the promotion and harmonisation of skin cancer prevention. The Conference was held in Hamburg Germany and was organised in close collaboration with the European commission (EU), the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the World Health Organisation (WHO). One day of the Conference was devoted to a workshop on UVR Tanning Devices.

This article summarises the recommendations for research strategy, health advice, research and potential research and promotional funding related to different aspects and sessions of the Conference and to the UVR tanning devices workshop.

Recommendations

The experts attending the Conference welcomed the initiative of EUROSKIN in providing a forum for discussion of many aspects of harmonisation and co-operation in the field of skin cancer prevention. The importance of such meetings was recognised in bringing together experts from different scientific fields to address the important issue of skin cancer prevention, to clarify research needs, to provide guidance to health research funding agencies and to map out areas of future international collaboration.

The recommendations are intended to provide guidance on research needs and ways to expand and improve the quality of research. .

Session I - Experimental Biological Research

The Conference recognised the importance of experimental studies (animal, cellular, *in vitro*) in the investigation of adverse health effects in humans and in understanding basic mechanisms of biological interactions. It also recognised the positive role that EUROSKIN, the European Commission (EC) and other international bodies (e.g. the World Health Organization (WHO) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP)) can play in promoting high quality biological research in this area. The following recommendations were made on the essential requirements for good experimental design.

- Establish good dosimetry as well as appropriate choice and quantification of the biological endpoints (e.g. erythema grade)
- Perform proper dose-time response analyses (i.e. avoid the use of arbitrary dose and response levels).
- Due awareness and consideration of UVR spectra and dose (examine whether they are physiological, and if not, why?)
- Use of proper controls and adequate sample size (these are always required)
- Better definition of action spectra and spectral interactions especially in human skin.
- Derive action spectra for basal cell carcinomas and melanoma from relevant experimental models

For skin cancer there is a need to

- Identify pre-mutagenic lesions; particularly for melanoma.
- Identify genetic targets for UVA & UVB (e.g. p53 or INK4A (p16)) and corresponding stages in tumorigenesis (i.e. early, intermediate or late events).

- Identify cellular targets: e.g. stem cells, melanocytes (initial targets), dermal fibroblasts or alterations in the micro-environment of latent tumour focus.
- Derive and validate biomarkers for skin cancer risk (from the three preceding points)
- Develop models that accurately reflect the carcinogenic process in human skin (e.g. both histopathologically and genetically)
- Investigate the use of human skin tissue cultures, transplants of human skin grafted onto an animal (e.g. RAG1 immuno-deficient mice) and the use of ingenereed skin.
- Consider using (transgenic) animal models for (UV-induced) basal cell carcinomas (e.g. through activation of the sonic hedgehog pathway).
- Consider using (transgenic) animal models for (UV-induced) melanoma (e.g. in mice with genetic alterations in the tumour comparable to those in human melanoma)
- Research should be directed at specific health effects of UV exposure in infancy/childhood.

Session II - Epidemiology

The Conference recognised the importance of epidemiology in contributing to health hazard and risk assessment in human populations. Furthermore, it recognised that epidemiology may provide ideas and models for skin carcinogenesis that can be experimentally tested. The discussion reflected the limitations of current epidemiological data in addressing these needs and the basic requirements and specific scientific tools to set out future studies. The discussions covered the classical approach to epidemiology and more recent developments in molecular biology that may afford the opportunity for incorporation in future epidemiological studies (i.e. molecular epidemiology).

It was recognised that in order to assess the burden and nature of the disease, there is a need for better baseline epidemiological data related to all forms of skin cancer. This allows both international comparisons and the study of time trends.

There is a need for improvement and, where possible, standardisation with respect to the quality of data in epidemiological studies, including:

- The true incidence rates of non melanoma skin cancers
- The true incidence of malignant melanoma of the skin
- The standardisation of the classification of markers for progression and stage
- The provision of complete histological data.

- Improvement in cancer registration (international collaboration and harmonisation between cancer registries, thus enabling comparison of results).
- Critical analysis of skin cancer trends with time and region.

It was suggested that the interpretation of epidemiological studies could be strengthened by improved measures of personal exposure. One fruitful area in this respect is the use of suitable biological markers and the further development of these. However, it is important to ensure the relevance of the bio-marker to the endpoint of the study. It is also important to demonstrate that these measures are economically feasible and otherwise acceptable, particularly in respect of those that are invasive. The importance of the results of such epidemiological studies in providing collaborative feedback to experimental researchers should be recognised.

There is a need to consider the advantages afforded by epidemiological studies in specific groups. For example, this might include children, those suffering from rare diseases relevant to skin cancer, groups with different ethnic origins and populations exposed to different relative patterns of sun exposure. It is important to consider the overall impact that this research might have on the overall burden of disease. There may also be value in conducting further research into precursor lesions such as pigmented nevi.

The Conference emphasised the key role that international bodies such as EUROSKIN, the European Commission, the European Network of Cancer Registration and the WHO can play in proposing and facilitating harmonisation and collaboration in the field of skin cancer epidemiology. The arrangement of conferences as forums for discussions between epidemiologists and experimental researchers (biologists, physicists etc.) would be of great value. The proposals for standardisation provided above are examples of such collaborative work.

Session III - Primary Prevention

The purpose of primary prevention is to avoid the occurrence of a disorder (e.g. sunburn) and/or a disease (skin cancer) by reducing exposure to risk factors, here UV radiation is the main factor for developing skin cancers. The main tool of primary prevention is the provision of information to and education of the public or parts of the public, health care professionals, national authorities and other decision-makers, to raise awareness and change risk behaviour.

The following summarises the conclusions and recommendations of the conference in respect of primary prevention.

General Considerations

- Reduce morbidity and mortality in the longer term by encouraging changes in personal behaviour towards the sun and artificial UV-sources (e.g. desire for tan).
- Explore ways to communicate risk about environmental change and behaviour.

- Recognise and include exposure from artificial sources.
- Provide uniformity of messages with regard to risk.
- Support education and awareness of exposure reduction (e.g. textile UV protection)
- Encourage development of educational material.
- Encourage co-ordination of protection programmes.
- Seek the co-operation of travel industry and other commercial outlets and encourage the news media.
- Convince decision makers that campaigns of primary prevention will be effective, save lives and economically sound.
- Focus attention on protection of children

UVR monitoring and exposure assessment

- Consider the concept of a scheme for UVR protection (compared with ionizing radiation)
- Emphasise the importance of UVR monitoring in primary prevention
- Emphasise the need for harmonised strategies to monitoring.
- Co-ordinate European-wide measurements.
- Need to link monitoring with assessment to personal exposure.
- Need for tools to identify high risk zones.
- Promote the use of the solar UV index as a vehicle for raising public awareness and encourage its use by national authorities.

Evaluation of primary prevention

- Recognise the need for multidisciplinary approaches.
- Recognise the need for a core set of standardized outcome measures.
- Encourage simple large scale monitoring.

- Carry out some in depth studies targeting specific groups, e.g. children with their families and schools.
- Need to consider costs.
- There is a need for all suggested actions to be evidence based.

Session IV - Secondary prevention of skin cancer

Secondary prevention includes various strategies for early detection of skin cancer: self-examination, opportunistic screening, case finding, and organised screening.

The Conference agreed that EUROSKIN should play an active role in the development and harmonisation of secondary prevention initiatives for skin cancer that meet international quality standards. The Council of Europe Recommendations 94(11) on screening as a tool for preventive medicine should be taken into account

For the purpose of this recommendation screening should be defined as the application of a test to a defined group of persons in order to identify an early stage, a risk factor or a combination of risk factors of the disease. Considering that screening for skin cancer provides a tool for control of the disease, the following recommendations were made:

- the burden of the various skin cancers should be investigated, considering more accurate and complete registration of incidence and mortality, and evaluation of morbidity.
- Cost-effective methods for secondary prevention and management of skin cancer should be investigated.
- Different outcome measures should be defined for the early detection of various skin cancers, relating to mortality reduction, morbidity reduction and quality of life improvement.
- The balance between favourable and unfavourable effects of screening for the various skin cancers should be investigated.
- The accuracy of total skin inspection as a screening tool by various examiners should be investigated.
- Histopathological terminology and definitions of skin cancer lesions should be standardised.
- Organisational models compatible with the various health care systems in the European countries should be developed.
- The ethical issues of early detection should be investigated.

Session V - Public Relations

The Conference identified media coverage, collaboration and marketing as key issues in respect of conveying a convincing and effective message to the public.

Media coverage

- The media should be informed of new information and research findings etc. in a way relating directly to the people (the human angle).
- The media should be provided with links to experts who can provide up-to date relevant information and opinions.
- Information resources (such as e.g. leaflets) should be made available to professionals (for example general physicians) and to the general public,
- The endorsement of messages and information by personalities easily recognised by the public may be additionally helpful.
- Messages and information should be couched in media language and not in terms that are too technical.
- The formulation and provision of information is a multidisciplinary effort and should include the participation of all relevant agencies, including those from the voluntary sector as well as government and commercial interest.
- Messages and information should be made interesting to the reader and should represent a consensus of interested professionals and agencies.

Collaboration

- International collaboration is important, but care must be taken to present information in a manner respecting the cultural and other differences between countries and regions.
- It is important to learn from the experience of other existing networks and to seek active collaboration with them.
- In producing international messages and information it is important to allow space for the inclusion of national materials as well.
- The content of messages and information should reflect the highest degree of agreement reached by the contributing agencies involved.
- The world-wide-web represents an effective way of providing and exchanging information, but it was important to keep the material up-to-date.
- In respect of producing internationally harmonised messages and information, it is important to recognise and respect the external constraints on all partners.

Marketing

- In marketing information it is important to involve marketing,, advertising and media professionals and ideally to create a network of such professionals to share ideas and strategies.
- It is important to present a clearly defined and consistent corporate identity and image. This includes a logo that should be recognised as denoting quality.

Session VI- UVR Tanning Devices

The Conference met to discuss the benefits and detriments of the use of tanning devices within the framework of a WHO Workshop. The conclusions and recommendations of the Workshop were as follows.

Benefits of tanning device use

Certain medical conditions, e.g. compensation of vitamin D₃ deficiency, may be successfully treated by tanning devices. However, such treatment should only be carried out in medical units. For the majority of the population casual exposure to the sun provides adequate vitamin D₃. A feeling of wellbeing was also recognised as a possible benefit, but may be attributed to the feeling of warmth and brightness which is not specific for UV-radiation.

Detriments of tanning device use

These are skin cancer, premature skin ageing and other damage to the skin of excessive UV exposure

Recommendations

The general statement was made that the use of tanning devices for cosmetic purposes is not recommended.

Also that people should not use tanning devices if they

:

- Have type I skin.
- Are under 18 years of age.
- Have large numbers of nevi (moles).
- Tend to freckle.
- Have a history of frequent childhood sunburn.
- Have premalignant or malignant skin lesions.

- Have sun damaged skin.
- Are wearing cosmetics. These may enhance their sensitivity to UV exposure
- Are taking medications. In this case they should seek advice from their physician to determine if the medication will make them UV-sensitive.

If however, tanning devices are used, then the following specific recommendations apply:

- Recognising that different countries will have different ways of implementing and determining compliance with these recommendations, the Conference urged that tanning facilities should comply with these recommendations and that compliance should be checked by the appropriate national authority where possible.
- Tanning devices should comply with the requirements of the IEC standard (1995).
- Appropriate health warnings should be provided to the client prior to tanning exposure.
- Appropriate UV-protective eyewear should be provided and worn during tanning exposures.
- Operator staff should be provided with appropriate approved training (receive appropriate certification).
- Professional operators are responsible for providing client information and guidance on the safe use of tanning devices.
- Tanning sessions should be limited and specified using the recommendations of the International Commission on Non-Ionizing Radiation (ICNIRP).
- Manufacturers must supply exposure schedules based on the tanning device lamp characteristics.
- Any modifications, such as the replacement of lamps, filters or reflectors should not change the IEC classification of the device.
- Claims of beneficial medical effects should not be made.
- Therapeutic use of tanning devices should only be done in medical units.
- Tanning devices in hotels or in recreational facilities should be subject to the same controls as noted above (as for any commercial outlet).
- Because of their possible misuse, unattended or coin-operated tanning devices should not be used.

- By the nature of their use, sunlamps in the home are not subject to the same degree of control as those used under proper supervision in commercial outlets, so additional safety information should be provided by the vendor or supplier of the tanning device. In these circumstances only IEC type 3 tanning devices should be used.
- Products designed to enhance or accelerate tanning should not be used.

Session VII - International Networking and Collaboration

In this session of the Conference agreement was reached on the first steps for establishing a European network and to start European collaborations in the fields of primary and secondary prevention. It was agreed that international activities in the major fields covered by the Conference should be surveyed. The classification of the histopathology of skin cancers should be standardised. EUROSkin should seek contact with the European Network of Cancer Registries to promote improved registration of skin cancer. EUROSkin should further develop its website, particularly as a source of reliable information from different countries to promote communication between members of EUROSkin and for public relations (commercials, information material). A network of groups active in the field of malignant melanoma should be established. An expert network for interaction with the media on skin cancer should be set up. The potential for networking in the areas of outdoor ultraviolet radiation exposure and occupational medicine should be explored. A report should be sent to the European Commission with the published meeting results. A Scientific Advisory Board was established.