



**Press backgrounder EURO 01/2000
Copenhagen, 18 April 2000**

IODINE PROPHYLAXIS AFTER NUCLEAR ACCIDENTS

Updated WHO guidelines call for wider distribution as result of thyroid cancer seen after the Chernobyl accident

On 26 April 1986, fourteen years ago, the Unit No 4 of the Chernobyl nuclear power plant in the Ukraine exploded and caught fire releasing to the environment huge quantities of radioactivity, including the radioactive isotopes of iodine. In 1989, the first cases of thyroid cancer in children started to appear in Belarus, a small country bordering the Ukraine. By 1992 there was clear evidence of the increase and a WHO mission to Minsk helped to bring this to the attention of the global medical community. Since 1986 a total of more than 1,300 cases in children and adolescents have been officially recorded in the Ukraine, Belarus and the Russian Federation, and cases most probably caused by the radio iodine are occurring in young adults. These increases, which occurred predominantly in those who were young at the time of the accident, illustrate the sensitivity of the child's thyroid to radio iodine.

Chernobyl was the second accident at a commercial power generating reactor, and much more serious than the first at Three Mile Island in the USA. Based on past experience, the chance of a third accident in the 10 years from 2000 to 2009 is unlikely to be less than 1 in 8 and is most likely to be about 1 in 2. Given the seriousness of the potential consequences, these are not trivial risks.

Iodine is an element vital to growth and to leading an active life. Once radioactive iodine enters the body, either by inhalation from the air or ingestion in food, particularly milk, it is concentrated in the thyroid gland. In children, whose thyroids are small and very sensitive to the effects of radiation, the risks of inducing cancer are high. However, the uptake of radioactive iodine can be safely prevented by administering stable iodine to block uptake.

In 1989, stimulated by the Chernobyl accident, the WHO Regional Office for Europe issued guidelines on stable iodine prophylaxis after nuclear accidents. At that time, stable iodine was seen as important in areas relatively close to the site of the release. Immediately after the Chernobyl accident, very few precautions in terms of the distribution of stable iodine and the control of foods were undertaken and, as a consequence, since 1989, there has been a very significant rise in cases of childhood

thyroid cancer. The geographical range over which these cases have occurred (up to several hundred km from the site of release) indicates the need for a wider distribution of stable iodine in future if children are to be properly protected. The safety of the administration of stable iodine, as now recommended in the 1999 update of the Guidelines issued this month, is confirmed by results of the follow-up of the distribution of stable iodine in Poland immediately after the Chernobyl accident when 17 million doses were administered.

In addition, evaluation of the evidence available on the induction of thyroid cancer by radiation indicates very clearly the sensitivity of the child thyroid gland and the relative insensitivity of that of the older adult. Furthermore, older adults (over 40 years), because of a higher prevalence of thyroid disease, run a higher risk from the administration of stable iodine. This new information indicates the need for a more "focused" policy for administration of stable iodine.

The updated guidelines, prepared in consultation with several experts in endocrinology and related subjects, endorsed by three out of four regional thyroid associations and issued as a global document, thus reflect this new information in recommending a geographically wider distribution for stable iodine and a differential approach to different age groups in the population.

A full copy of the Guidelines for Iodine Prophylaxis following Nuclear Accidents (PDF doc.) can be downloaded from the WHO website:
http://www.who.int/environmental_information/Information_resources/on_line_radiation.ht

For more information, contact:

Dr Keith Baverstock
Regional Advisor for Public Health
and Radiation

P.O. Box 14 - Laippatie 4
FIN-00881 Helsinki
Finland

Office +358 9 759 88680
Office +358 9 759 88678
Fax +358 9 759 88 682
Mobile: +45 2040 2078
.Eurocode 2089

E-mail keith.baverstock@who.fi

Franklin Apfel or Annette Andkjaer
Communication and Public Affairs
WHO Regional Office for Europe
Scherfigsvej 8, DK-2100 Copenhagen Ø,
Denmark

Tel.: +45 39 17 13 36
or +45 39 17 13 44

Fax: +45 39 17 18 80
or ana@who.dk

Press releases on World Wide Web site:
<http://www.who.dk/cpa/cpa.htm>



© WHO Regional Office for Europe

URL: <http://www.who.dk/>

Updated 18 April 2000 - webmaster@who.dk