

## 180-PSI.23

## OCCUPATIONAL EXPOSURE TO X-RADIATION IN POLAND IN THE YEARS 1966-1996.

Jankowski J.  
The Nofer Institute of Occupational Medicine, 90-250 Łódź, P.O.Box 199,  
St.Teresa Street 8, Poland

The paper presents the dosimetric system and detail results of measurements for 1966-1996.

Actually population of people under control enumerate more than 26000 employed in about 2600 X-ray departments. Health care workers constitute about 80% of the total monitored population. Annual dose for 98% of people under control is below 1 mSv. Doses exceeding the annual limit occur very rarely - a few cases a year.

A similar percentage applies to all categories of workers except those undertaking operational radiology. The historical variation of annual dose received by the X-ray workers since 1966 is discussed.

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## IODINE-131 INTERNAL CONTAMINATION, MONITORING RESULTS FOR WORKERS

Gaburo, J.C.C.; Sanches, M.P.; Todo, A.S.; Potiens Jr, A.J.; Sordi, G.M.A.A.  
(Instituto de Pesquisas Energéticas e Nucleares - CNEN/SP)  
C.P.11049, CEP 05422-970 - São Paulo, Brazil)

**Introduction** Assessment and recording of radiation exposure for workers in practices involving radiation risks are required to demonstrate compliance with the annual dose limits. A monitoring program for internal contamination in Radioisotope Production Plant of IPEN-CNEN/SP must be considered for workers who might exceed the reference level of one-tenth of the annual dose limits. The implemented monitoring program has the aim to ensure that the exposure of each individual remains below the annual dose limits.

**Materials and Methods** As safe control a series of procedures have been implemented in a program of internal monitoring for  $^{131}\text{I}$  by "in vitro" (urine sampling) and "in vivo" bioassay. From this programme it become possible to evaluate the radiation dose received by workers. In addition, it is useful as a method to confirm that the workplace conditions are satisfactory.

**Results** The average internal exposure of all monitored workers does not exceed one-tenth of the dose equivalent limits. Only a few workers has accumulated committed dose equivalent up to the limits in consequence of incorrect handling of radioactive material in the production of labeled compounds for use in nuclear medicine. All results values were interpreted as single intakes with simple assumption at the moment of intake.

**Conclusion** To solve the inadequate handling it was necessary to introduce a training on the job and to become the workers dutiful to follow the health physics supervisors recommendations. Some workers have maintained the doses over of one-tenth of the annual dose limits and for this reason it is necessary to investigate the different radiological protection options to improve the safety and consequently to decrease the doses. Finally, the best option will be choose by quantitative decision aiding techniques.