

NATIONAL HEALTH SERVICE

CODE OF PRACTICE FOR THE PROTECTION OF PERSONS EXPOSED TO IONIZING RADIATIONS

Summary. The Minister has accepted the recommendation of the Radioactive Substances Advisory Committee that he should promulgate a Code of Practice for observance by all workers exposed to ionizing radiations in hospitals. A Code of Practice has been prepared accordingly by the Advisory Committee and is now circulated for guidance.

Introduction

1. It is not at present the Minister's intention to make use of the powers given under Section 5 of the Radioactive Substances Act, 1948, to make Regulations to prevent injury being caused by ionizing radiations to the health of persons employed in hospitals and other persons. He has, however, accepted the advice of the Advisory Committee set up under the Radioactive Substances Act that a Code of Practice should be prepared and issued for the protection of persons working in hospitals in the National Health Service. A copy is enclosed with this memorandum, and further copies may be obtained from H.M. Stationery Office. The Code is applicable to the use both of X-rays and of radioactive isotopes, and takes account of the material published in the Report of a Committee of the Medical Research Council on "The Hazards to Man of Nuclear and Allied Radiations" which was published in June, 1956 (Cmd. 9780). The Minister asks that it should be brought to the attention of the staffs of radiological, radiotherapy, and physics departments of hospitals.

Contents of the Code of Practice

2. The Code is divided into two main sections. Part A contains the protection rules applicable to the use of X-rays for diagnostic purposes and to the use of X-rays and γ -ray beam units for therapeutic purposes. Part B contains protection rules applicable to the diagnostic and therapeutic uses of radioactive isotopes either sealed or unsealed. The Code also contains a Supplement on the fundamental scientific information and technical details concerning the design of radiological and radiotherapy departments and laboratories. Definitions of the terms used are set out in an Appendix to the Supplement.

3. The Code contains general information on what the Committee suggests would constitute sound safety practice in radiological and radiotherapy departments. It also contains basic rules which the Minister feels would be accepted as reasonable minima in safety precautions by radiologists and radiotherapists. These basic rules are signified in the Code by the use of the word "must". The Minister requests Boards and Committees to arrange for the practice in radiological and radiotherapy departments in their hospitals to be reviewed in the light of the Code, so that any necessary measures may be taken to bring safety precautions up to the minima described therein.

To: Regional Hospital Boards,

Hospital Management Committees,

Boards of Governors.

4. The Minister also trusts that those in charge of all radiological and radiotherapy departments will take the necessary steps to ensure a strict observance of the minimum safety requirements advised in the Code. There is, of course, no desire to interfere with the clinical freedom of the individual consultant, but in the special circumstances of those departments in which ionizing radiations are used, it has become essential to secure a definite minimum standard of safety precautions and to place upon the head of the department the responsibility for securing that this standard is maintained. The information in the Code, in this respect, supersedes that which was contained in the Recommendations of the former British X-Ray and Radium Protection Committee and that which has more recently been made available through the International Commission on Radiological Protection (see paragraph 6 below).

General Application of the Code

5. To assist in ensuring that the Code is effectively applied the Minister wishes to bring particularly to the attention of Boards and Committees certain sections which involve administrative action by them. These sections are outlined below for convenience. The references in brackets are to the appropriate parts of the Code.

- (a) Boards and Committees should ensure that the officer in charge of a department in which ionizing radiations are used is responsible for the working conditions of personnel and for the instruction of new personnel in safe working practices in dealing with ionizing radiations and in the nature of the effects caused by over-exposure. The officer in charge should also be responsible for the radiation levels in rooms adjacent to, and above and below, those in which ionizing radiations are used, and for non-radiological staff who enter the rooms containing radiological equipment for such purposes as cleaning. (A.2.1 and B.2.1.)
- (b) Boards and Committees should arrange for a member of the staff of the radiological or radiotherapy department with adequate training and experience to be designated as a Safety Officer specifically responsible for radiological protection measures. (A.2.1 and B.2.1.)
- (c) Boards and Committees should ensure compliance with the requirement that all employees concerned must read the relevant sections in the Code and must sign a statement that this has been done and the rules understood. (A.2.2. and B.2.2.)
- (d) All new or modified radiological or radiotherapy departments should be subjected to a radiation survey by a qualified expert. (A.3.1 and B.3.1.) (A "qualified expert" for this purpose may be either a hospital physicist or an officer of the Radiological Protection Service.)
- (e) It is recommended in the Code that no staff under the age of 16 should be employed in work involving occupational exposure to ionizing radiations or radioactive materials. Boards and Committees are asked to see that this provision is observed. (A.4.1 and B.4.1.)
- (f) It is recommended in the Code that all personnel employed in work involving such occupational exposure should be

under medical supervision. The measures suggested are that a pre-employment general medical examination of all new personnel and, once this has been done, checks in accordance with the Code of the amount of radiation received, should be established. (A.4.2 and B.4.2.)

- (g) It is recommended in the Code that personnel monitoring should be continuous and a personal cumulative record should be kept of the doses of radiation received, not only occupationally but also from all other sources such as personal examination by means of diagnostic radiology. (A.4.3 and B.4.3.) The Minister recognises, however, that until it is possible for continuous monitoring to be carried out in all hospitals concerned a system of personal cumulative record cannot be fully implemented.
- (h) Attention is drawn to the recommendation in the Code on the circumstances in which routine blood counts should be taken. (A.4.4 and B.4.4.)
- (i) The Code describes the storage arrangements which should be made where radioactive preparations are used. It should be the duty of the Safety Officer to supervise the removal of substances from the place of storage. (B.6.1.)
- (j) Boards and Committees should note the recommendations in the Code about measures necessary for the protection of hospital personnel working in close proximity to patients undergoing treatment with radioactive isotopes. Particular attention is drawn to the need for the limitation of periods of occupancy of areas in the neighbourhood of such patients and for displaying warning notices over the beds of patients containing radioactive materials. (A.7.2, B.7.1 and B.7.2.)
- (k) Detailed instructions on the disposal of waste products which may be contaminated with radioactive substances are under consideration and will be issued shortly as an amendment to the Code. (B.8.1.)

The International Commission on Radiological Protection (I.C.R.P.)

6. There are references in the Code to the recommendations of this Commission, a body which functions under the auspices of the International Congress of Radiology. The Commission was set up to make recommendations on radiation safety standards, and the Code of Practice is based on these recommendations. The Commission has adopted the policy in making its recommendations of dealing only with the basic principles of radiation protection. It has been necessary, in preparing this Code, to introduce slight variations in the recommendations of the International Commission in order to suit the need of the hospital service in this country.

The Radiological Protection Service

7. In order to carry out some of the safety arrangements proposed in the Code, many hospitals in the National Health Service will need assistance. Accordingly a Radiological Protection Service has been provided jointly by the Ministry of Health and the Medical Research Council, equipped to carry out all necessary tests of personnel and equipment, including the development and interpretation of film badges, and the assessment of the amounts of radioactive isotopes which have accumulated in the bodies of workers. The Service can

also arrange to send experts to survey radiological or radiotherapy departments if required under paragraphs A.3.1 and B.3.1 of the Code, or to assess the results of exceptional spills or leakages. Any request for advice or assistance should be addressed to the Director, Radiological Protection Service, Clifton Avenue, Belmont, Sutton, Surrey (telephone: Vigilant 9121-2).

Building Schemes

8. Where new radiological or radiotherapy departments are to be provided or existing departments structurally modified, it is requested that in all cases plans be submitted to the Ministry of Health before constructional work is begun, whether the cost of works exceeds the limits for approval of capital schemes or not. In planning structural work advice may be obtained from the Radiological Protection Service. Detailed information on structural protection measures is given in the Appendix to Part A of the Code and in the Supplement.

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